MONDAY

NEUROSCIENCE
2019

SESSION LISTING 255–433

1969–2019

SOCIETY for NEUROSCIENCE

CELEBRATING 50 YEARS

Information at a Glance

Neuroscience 2019 is in the North and South Buildings of McCormick Place.
Session information listed here is current as of August 26, 2019. See SfN.org for the most up-to-date annual meeting information.

IMPORTANT PHONE NUMBERS

Annual Meeting Headquarters Office
Logistics & Programming
McCormick Place: Hall A
Logistics: (312) 791-6800
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Donor and Volunteer Leadership Lounge
McCormick Place: Level 2.5 Lounge

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KEY TO POSTER FLOOR BY THEMES

The poster floor is in Hall A. Refer to the poster floor map at the end of this booklet.

Theme

A ..... Development

B...... Neural Excitability, Synapses, and Glia

C ..... Neurodegenerative Disorders and Injury

D ..... Sensory Systems

E...... Motor Systems

F...... Integrative Physiology and Behavior

G ..... Motivation and Emotion

H ..... Cognition

I....... Techniques

J ...... History, Education, and Society

Note:
Theme J Posters will be on display in Hall A beginning at 1 p.m. on Saturday, Oct. 19, and will remain posted until 5 p.m., Sunday, Oct. 20. One-hour presentations will occur either Saturday afternoon or Sunday morning.

CODE OF CONDUCT AT SfN EVENTS

SfN is committed to supporting discovery and scientific dialogue, and to fostering a welcoming community in which all scientists are able to contribute fully. The Society asserts that sexual harassment and other harassing behaviors have no place in a healthy scientific enterprise. We expect all attendees, media, speakers, volunteers, organizers, venue staff, guests, and exhibitors at SfN-organized events to help us ensure a safe and positive environment. At the convention center, onsite medical and security personnel are available directly or through the SfN headquarters office.

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Cover Image:
This image shows a transverse section of mouse lumbar spinal cord taken 7 d after partial sciatic nerve ligation. The section is stained for microglial markers Iba1 (red) and phosphorylated p-38 MAPK (green), as well as the nuclear marker DAPI (blue). The orphan G-protein receptor 84 (GPR84) is markedly induced in macrophages and microglia during inflammation, and it contributes to the development of mechanical and thermal hypersensitivity.
Journal of Neuroscience 10 June 2015, 35 (23) 8959-8969.

Courtesy with permission:
Louise S.C. Nicol, John M. Dawes, Federica La Russa, Athanasios Didangelos, Anna K. Clark, Clive Gentry, John Grist, John B. Davies, Marzia Malcangio and Stephen B. McMahon.

Complete Session Listing

Monday AM

LECTURE *McCormick Place*

263. HISTORY OF NEUROSCIENCE LECTURE- Exocytosis of Synaptic Vesicles: From Quantal Release to Molecular Machines — CME

Mon. 9:00 AM - 10:10 AM — Hall B

Speaker: R. JAHN, *Max Planck Inst. for Biophysical Chem.*

At chemical synapses, depolarization-induced calcium influx triggers neurotransmitter release, a key step in synaptic signaling. In the 1950s, Katz found that transmitter release is quantal, and synaptic vesicles were discovered. In the following decades, recycling routes for synaptic vesicle and for neurotransmitters were worked out, but only since the mid-1980s are the molecular mechanisms governing the steps in synaptic vesicle cycling becoming known. The history of the field will be briefly reviewed, focusing on exocytosis and membrane fusion.

SYMPOSIUM *McCormick Place*

256. Circuit Variability and Plasticity in the Central Nervous System of *Drosophila* — CME

Mon. 8:30 AM - 11:00 AM — Room: S100A

Chair: G. TAVOSANIS, *DZNE*
Co-Chair: B. A. HASSAN. *INSERM, CNRS, Sorbonne Univ.*

Which level of variability in the connections within a circuit can support behavioral variation among individuals or trigger the modified response of an animal that has learned a given task? Unprecedented views into neuronal morphology and circuit organization allow for asking such questions in flies with great precision. This symposium will explore how variability emerges during nervous system development and its behavioral correlates and discuss the signals that promote plasticity in the adult nervous system.

8:30 **256.01** Introduction.

8:35 **256.02** Circuit rewiring accompanies memory consolidation. G. TAVOSANIS. *DZNE.*

9:10 **256.03** Through the I of the fly. B. A. HASSAN. *Inserm, CNRS, Sorbonne Univ. and Hôpital de la Pitié-Salpêtrière.*

9:45 **256.04** Toll receptors regulate structural brain plasticity and neurodegeneration. A. HIDALGO. *Univ. of Birmingham.*

10:20 **256.05** Activity-dependent regulations of cholinergic receptor signaling contribute to the maturation of developing dendrites. Q. YUAN. *Natl. Inst. of Neurolog. Disorders and Stroke, Natl. Inst. of Hlth.*

10:55 **256.06** Closing Remarks.

SYMPOSIUM *McCormick Place*

257. Dissecting Cerebellar Function: A Prototypical Circuit Critical for Motor Learning and Cognition — CME

Mon. 8:30 AM - 11:00 AM — Room: S100BC

Chair: M. YUZAKI, *Keio University School of Medicine*

At the end of 2018, the world lost Prof Masao Ito. Few have shaped our understanding of the cerebellum more — from the identification of inhibitory actions of Purkinje cells, to the postulate and discovery of synaptic long-term depression and a role beyond motor control. This tribute to his visionary work and how it continues to influence research around the world features state-of-the-art studies of cerebellar development, plasticity, and consequences for cognition and its disorders.

8:30 **257.01** Introduction.

8:35 **257.02** Synapse remodeling in developing Purkinje cells. M. KANO. *Univ Tokyo.*

9:10 **257.03** Cerebellar circuits for locomotor learning. M. R. CAREY. *Champalimaud Center for the Unknown.*

9:45 **257.04** Causal link between LTD and motor learning. M. YUZAKI. *Keio University School of Medicine.*

10:20 **257.05** Cerebellar connectivity in cognition and its disorders. C. J. STOODLEY. *American University.*

10:55 **257.06** Closing Remarks.

MINISYMPOSIUM *McCormick Place*

258. Phenotype Suppression in Neurodegeneration — CME

Mon. 8:30 AM - 11:00 AM — Room: S105

Chair: K. WHARTON, *Carney Institute for Brain Science, Brown University*

The underlying causes of neurodegeneration remain elusive in many diseases, including ALS and FTD. This minisymposium will focus on the hallmark phenotypes of these diseases and the molecular and cellular pathways that suppress them. Rather than uniting around a specific genetic mutation or model organism, this minisymposium will highlight models with clinically relevant symptoms that enable mechanistic studies based on genetic or pharmacological suppressors.

8:30 **258.01** Introduction.

8:35 **258.02** Cellular mechanisms promoting and preventing neurodegeneration in *C. elegans* models of ALS and FTLD-TDP. N. F. LIACHKO. *VA Puget Sound Hlth. Care Syst.*

8:55 **258.03** Disruption of RNA metabolism in neurodegenerative diseases and emerging therapeutic strategies. C. LAGIER-TOURENNE. *Massachusetts Gen. Hosp.*

9:15 **258.04** Protein translation defects in ALS and FTD. S. DA CRUZ. *Univ. of California San Diego.*

9:55 **258.06** Targeting stress response pathways in neurodegenerative disorders. D. BOSCO. *Univ. of Massachusetts.*

• Indicated a real or perceived conflict of interest, see page 150 for details.
▲ Indicates a high school or undergraduate student presenter.
* Indicates abstract's submitting author

10:15 **258.07** Genetic suppressors of multiple ALS models highlight dysregulated pathways. M. BARTOLETTI. *Brown Univ.*

10:35 **258.08** Closing Remarks.

MINISYMPOSIUM *McCormick Place*

259. Insights Into Neural Coding and Behavior From Large-Scale Population Recordings Across Cortical Areas — CME

Mon. 8:30 AM - 11:00 AM —— Room: S406B

Chair: J. L. CHEN, *Boston University*

Cognitive functions involve information processing within and across the neocortical areas. This minisymposium aims to unravel how local and global cortical dynamics contribute to sensory processing, attention, working memory, and decision making. Novel optical and electrophysiological methods for simultaneous recordings across multiple areas, their application across mammalian species, and computational approaches for analyzing large-scale population activity will be discussed.

8:30 **259.01** Introduction.

8:35 **259.02** Population codes in sensory and association cortex: Excitatory and inhibitory dynamics. C. A. RUNYAN. *Univ. of Pittsburgh.*

8:55 **259.03** Imaging Long-Range Cortical Networks for Context Dependent Sensory Processing. J. L. CHEN. *Boston Univ.*

9:15 **259.04** Frontal cortical activity with long-range input activity for motor execution. M. MATSUZAKI. *Grad. Sch. of Medicine, Univ. of Tokyo.*

9:35 **259.05** Distributed networks for choice, action, and engagement across the mouse brain. N. A. STEINMETZ. *Univ. of Washington.*

9:55 **259.06** Movement-related activity dominates cortical processing. S. MUSALL. *Cold Spring Harbor Lab.*

10:15 **259.07** Multi-area mechanisms of flexible behavior. M. R. COHEN. *Univ. of Pittsburgh.*

10:35 **259.08** Closing Remarks.

MINISYMPOSIUM *McCormick Place*

260. Ventral Tegmental Area (VTA) Cell Heterogeneity in Health and Disease — CME

Mon. 8:30 AM - 11:00 AM —— Room: S102

Chair: N. W. GILPIN, *Louisiana State University Health Sciences Center*
Co-Chair: E. B. MARGOLIS. *Univ. of California, San Francisco*

Historically, most research on the ventral tegmental area (VTA) has tested dopamine function as it relates to reward processing. Recent progress indicates 1) non-dopamine VTA neurons significantly impact behavior, 2) VTA inputs and outputs have multiple, sometimes opposing, behavioral effects, and 3) the VTA subserves various functions impacted by mental health disorders. This minisymposium will describe newly elucidated roles of specific VTA cell populations in addiction, reward, aversion, fear and sleep.

8:30 **260.01** Introduction.

8:35 **260.02** Stress switches kappa opioid receptor function in the ventral tegmental area from inhibitory to excitatory. E. B. MARGOLIS. *UCSF.*

8:55 **260.03** A neural circuit mechanism for encoding aversive stimuli in the mesolimbic dopamine system. J. W. DE JONG. *UC Berkeley.*

9:15 **260.04** Neuropeptidergic systems isolate operationally distinct dopamine pathways. L. ZWEIFEL. *Univ. of Washington.*

9:35 **260.05** Targets of VTA combinatorial glutamate-GABA neurons. M. MORALES. *NIH/NIDA IRP.*

9:55 **260.06** Alcohol dependence activates ventral tegmental area projections to central amygdala. E. M. AVEGNO. *Louisiana State Univ. Hlth. Sci. Ctr.*

10:15 **260.07** GABA and glutamate neurons in the VTA regulate sleep and wakefulness. W. WISDEN. *Imperial Col.*

10:35 **260.08** Closing Remarks.

MINISYMPOSIUM *McCormick Place*

261. Artificial Intelligence and Neuroscience: From Neural Dynamics to Artificial Agents — CME

Mon. 8:30 AM - 11:00 AM —— Room: S406A

Chair: J. W. PILLOW, *Princeton Neuroscience Institute and Center for Statistics and Machine Learning*

Machine learning research is advancing at a fast pace, with substantial impacts on neuroscience. Data-analytic approaches have helped to uncover and characterize dynamical structure in neural population activity, while artificial networks have provided insights into representations and computations in the brain. This minisymposium will explore topics at the intersection of machine learning and neuroscience, demonstrating recent advances and how both fields can benefit from a close interaction.

8:30 **261.01** Introduction.

8:35 **261.02** Understanding neural dynamics under flexible visuomotor tasks with neural decoding and manifold learning. O. COSTILLA REYES. *MIT.*

8:55 **261.03** Inferring temporal and computational variability from population spike trains. L. DUNCKER. *Univ. Col. London.*

9:15 **261.04** State space models for multiple interacting neural populations. J. GLASER. *Columbia Univ. in the City of New York.*

9:35 **261.05** Network structure and dynamics of a mesoscopic mouse whole-brain connectome. H. CHOI. *Univ. of Washington.*

9:55 **261.06** Task-Driven Convolutional Recurrent Neural Network Models of Dynamics in Higher Visual Cortex. A. NAYEBI. *Stanford Univ.*

10:15 **261.07** Vector-based navigation using grid-like representations in artificial agents. A. BANINO. *Deepmind.*

10:35 **261.08** Closing Remarks.

• Indicated a real or perceived conflict of interest, see page 150 for details.
▲ Indicates a high school or undergraduate student presenter.
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BASIC-TRANSLATIONAL-CLINICAL ROUNDTABLE
McCormick Place

262. Mechanisms of Drug Addiction: A Translational Perspective — CME

Speaker: A. BONCI*, National Institute on Drug Abuse--NIH.*

Speaker: R. SINHA*, Yale Univ Sch Med.*

Speaker: A. BECHARA*, University of Southern California.*

Mon. 8:30 AM - 11:00 AM ── Room: N230b

This roundtable will focus on translatability of basic research in animals to human research in addiction in order not only to understand neurobehavioral mechanisms of addiction, but also to define new strategies for discovery of clinical treatments, especially regarding the current opioid crisis. Topics to be discussed include the neural systems underlying addiction, neuronal adaptations occurring within those systems, how different drugs of abuse produce addiction, and the role of aberrant learning and vulnerabilities in the drive to addiction.

8:30 **262** Organizer/Moderator. T. W. ROBBINS. *Univ. of Cambridge.*

LECTURE *McCormick Place*

255. SPECIAL LECTURE- Neural Mechanisms of Short-Term Memory and Motor Planning — CME

Mon. 10:30 AM - 11:40 AM ── Hall B

Speaker: K. SVOBODA, *Howard Hughes Med. Institute, Janelia Res. Campus.*

Motor planning plays key roles in motor control. Movements that are preceded by periods of motor planning are faster and more accurate than in the absence of planning. Motor planning is also a prospective form of short-term memory that links past events and future movements. During motor planning, neurons in the motor cortex show persistent activity related to specific movements, long before movement onset, in the absence of sensory input. This lecture will discuss how multi-regional neural circuits maintain this selective persistent activity and how this activity relates to behavior.

NANOSYMPOSIUM

265. Cell Biological Mechanisms of Neural Development

Theme A – Development

Mon. 8:00 AM – *McCormick Place, S402*

8:00 **265.01** Single cell transcriptome analysis reveals the roles of tamoxifen in regulating cortical neurogenesis in prenatal and adult brains. C. LEE*; L. ZHOU; J. LIU; J. SHI; J. WANG; Y. GENG; X. SU; N. BARAD; Y. E. SUN; Q. LIN. *UCLA, Tongji Univ.*

8:15 **265.02** Modeling microcephaly with cerebral organoids and mice reveals a WDR62-CEP170-KIF2A pathway promoting cilium disassembly in neural progenitors. W. ZHANG*; S. YANG; M. YANG; S. HERRLINGER; Q. SHAO; J. CHEN. *USC.*

8:30 **265.03** The non-clustered protocadherins interact with the Wnt receptor Ryk to control proliferation and neurogenesis. S. BISWAS; M. R. EMOND; S. LIGHT; M. MORROW; J. D. JONTES*. *Ohio State Univ., Ohio State Univ., The Ohio State Univ.*

8:45 **265.04** Reciprocal axon interactions establish corticotopic pre-patterning of the developing corpus callosum. A. POULOPOULOS; P. DAVIS*; Y. ITOH; T. A. ADDISON; J. D. MACKLIS. *Harvard Univ., Univ. of Maryland Sch. of Med.*

9:00 **265.05** *TRIO loss-of-function impairs the tangential migration of GABAergic interneurons through RhoA hypoactivation and causes severe epileptic encephalopathy.* L. EID*; L. FAUTEUX-LOISELLE; E. DOUET; X. JIANG; M. LACHANCE; S. TENE TADOUM; A. LUPIEN-MEILLEUR; F. CHARRON-LIGEZ; G. GODIN; P. TAMER; J. LACAILLE; E. ROSSIGNOL. *Ctr. De Recherche Du CHU Sainte-Justine, Univ. de Montreal.*

9:15 **265.06** Microtubule assembly is required for dynein-mediated microtubule translocation and neurite elongation. K. MCELMURRY; J. E. STONE; D. MA; P. LAMOUREUX; Y. ZHANG; F. HUANG; K. E. MILLER; D. M. SUTER*. *Purdue Univ., Purdue Univ., Michigan State Univ., Purdue Univ.*

9:30 **265.07** Deciphering the molecular basis of neuronal development deficits in the recurrent genomic disorder. D. J. TAI*; S. ERDIN; K. MOHAJERI; X. NUTTLE; K. O'KEEFE; B. B. CURRALL; C. ZHANG; C. LEE; J. F. GUSELLA; M. E. TALKOWSKI. *Massachusetts Gen. Hosp., The Jackson Lab. for Genomic Med.*

NANOSYMPOSIUM

266. Astrocyte Networks Controlling Brain Function and Behavior

Theme B – Neural Excitability/ Synapses/ and Glia

Mon. 8:00 AM – *McCormick Place, S103*

8:00 **266.01** Astrocytic manipulation impairs remote memory acquisition by specifically disrupting CA1 to ACC communication. A. KOL*; A. ADAMSKY; T. KREISEL; M. LONDON; I. GOSHEN. *The Hebrew Univ.*

8:15 **266.02** Evidence accumulation in astrocytes for behavioral state transitions. Y. MU*; Z. WEI; D. V. BENNETT; M. RUBINOV; S. NARAYAN; C. YANG; M. TANIMOTO; B. D. MENSH; L. LOOGER; M. B. AHRENS. *Janelia Res. Campus / HHMI, Janelia Res. Campus / HHMI, Vanderbilt Univ.*

8:30 **266.03** Disconnection between arousing input and astrocytes during sleep. C. KJAERBY*; M. ANDERSEN; H. HIRASE; M. NEDERGAARD. *Univ. of Copenhagen, Univ. of Rochester.*

8:45 **266.04** Astrocytes regulate brainstem respiratory rhythm-generating circuits. S. SHEIKHBAHAEI*; H. KOIZUMI; R. ZHANG; A. V. GOURINE; J. C. SMITH. *NIH, Univ. Col. London.*

9:00 **266.05** Neuroglial coupling underlies sigh rhythmogenesis in the preBötzinger complex. L. SEVERS*; N. A. BAERTSCH; T. I. DASHEVSKIY; J. RAMIREZ. *The Univ. of Washington, Seattle Children's Hosp., Seattle Childrens Res. Inst., Univ. Washington.*

9:15 **266.06** ● Astrocytes alter classic and non-canonical glutamate signaling in awake animal models of migraine. P. D. PARKER*; P. S. SURYAVANSHI; M. MELONE; K. M. REINHART; P. M. SAWANT; J. J. THERIOT; A. PUGLIESE; F. CONTI; C. W. SHUTTLEWORTH; D. PIETROBON; K. BRENNAN. *Univ. of Utah, Univ. Politecnica delle Marche, Univ. of New Mexico, Univ. Politecnica delle Marche, Univ. Padova, Univ. of Utah Dept. of Neurol.*

- ● Indicated a real or perceived conflict of interest, see page 150 for details.
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- * Indicates abstract's submitting author

9:30 **266.07** Spatiotemporal properties of calcium activity in single astrocytes and astrocytic networks. A. BRAZHE; P. DENISOV; Y. DEMBITSKAYA; M. DORONIN; A. POPOV; A. V. SEMYANOV*. *Moscow State Univ., Univ. of Nizhny Novgorod, Inst. of Bioorganic Chem.*

9:45 **266.08** Diurnal morphological and coupling dynamics in hippocampal dentate gyrus astrocytes via label-free imaging. G. NASERI KOUZEHGARANI*; M. E. KANDEL; G. POPESCU; M. U. GILLETTE. *Univ. of Illinois at Urbana-Champaign, Univ. of Illinois At Urbana-Champaign, Univ. of Illinois.*

10:00 **266.09** Artificial astrocyte networks. E. PETERSON*; T. D. VERSTYNEN. *Carnegie Mellon, Carnegie Mellon Univ.*

NANOSYMPOSIUM

267. Parkinson's Disease: From Preclinical to Human Studies

Theme C – Neurodegenerative Disorders and Injury

Mon. 8:00 AM – *McCormick Place, N426*

8:00 **267.01** Bacterial Parkinson's disease: Findings, implications and treatment opportunities. J. R. LEHESTE*; C. A. BIEGEL; S. GOTTLIEB; K. KULASON; V. CIMINO; K. CHU; P. PRABHU; D. ORSHAN; G. OTAZU ALDANA. *MNCOM (proposed, seeking accreditation), NYIT Col. of Osteo. Med.*

8:15 **267.02** Glucocerebrosidase gene therapy in a nonhuman primate model of Parkinson's disease. J. L. LANCIEGO*; A. J. RICO; D. MARIN-RAMOS; E. RODA; G. GONZALEZ-ASEGUINOLAZA; A. I. RODRIGUEZ; M. COLLANTES; I. PENUELAS; J. L. LABANDEIRA-GARCIA; D. SUCUNZA. *Fima-University of Navarra, CIBERNED, Fima-University of Navarra, Univ. of Santiago de Compostela, CIBERNED, Clinica Univerisdad de Navarra.*

8:30 **267.03** ● Preclinical efficacy of the glucosylceramide synthase inhibitor Venglustat correlates with CSF and CNS exposure. C. VIEL; J. CLARKE; A. RICHARDS; H. PARK; B. WANG; L. GAO; L. S. SHIHABUDDIN; S. SARDI*. *Sanofi.*

8:45 **267.04** Network centric therapy for deep brain stimulation status parametric analysis with machine learning classification. R. C. L. LEMOYNE*; T. J. MASTROIANNI; D. WHITING; N. TOMYCZ. *Independent, Cognition Engin., Allegheny Hlth. Network.*

9:00 **267.05** ● Cognitive processes that indirectly affect olfactory dysfunction in Parkinson's disease. A. T. MERTENS*; J. B. SANTO; K. MARKOPOULOU; B. A. CHASE. *Univ. of Nebraska At Omaha, Univ. of Nebraska at Omaha, NorthShore Univ. HealthSystem, Univ. Nebraska-Omaha.*

9:15 **267.06** Wavelet shapes for feature extraction in accelerometry in Parkinson's disease. T. H. HARRIGAN*; J. R. BRASIC; K. A. MILLS; B. J. HWANG; C. MISHRA; A. PANTELYAT; P. VYAS; D. F. WONG. *Johns Hopkins Univ. Applied Physics Laborator, Johns Hopkins Sch. of Med., Johns Hopkins Univ., Johns Hopkins Univ., JOHNS HOPKINS SCHOOL OF MEDICINE, Johns Hopkins Univ. Sch. of Med., Johns Hopkins Univ. Sch. of Med., Johns Hopkins Med. Insts.*

9:30 **267.07** Which Parkinson's disease motor deficits are ameliorated by STN stimulation. C. F. MAURER*. *Albert Ludwigs Univ.*

9:45 **267.08** Frontal cortex of living patients with Parkinson's disease exhibits altered mRNA splicing profile. S. M. BENOIT*; H. XU; S. SCHMID; M. O. HEBB. *Western Univ., Western Univ.*

10:00 **267.09** Test-retest of a coding form for a low-cost quantitative continuous measurement of movements in the extremities of people with Parkinson's disease. J. R. BRASIC*; T. HARRIGAN; B. J. HWANG; A. K. MATHUR; K. A. MILLS; A. PANTELYAT; J. BANG; L. ROSENTHAL; E. MOUKHEIBER; K. KITZMILLER; J. M. ROBERTS; P. VYAS; A. B. SYED; D. F. WONG. *Johns Hopkins Univ. Sch. of Med., Johns Hopkins Univ. Applied Physics Laborator, Johns Hopkins Univ., Johns Hopkins Univ. Sch. of Med.*

10:15 **267.10** Characterizing plasma-borne inflammasome-related proteins in Parkinson's disease. F. L. ANDERSON*; K. M. VON HERRMANN; A. S. ANDREW; M. LEE; F. P. BISPO; A. L. YOUNG; W. F. HICKEY; M. C. HAVRDA. *Geisel Sch. of Med. at Dartmouth Col., Geisel Sch. of Med. at Dartmouth Col., St. Anselm Col., Geisel Sch. of Med. at Dartmouth Col.*

NANOSYMPOSIUM

268. Organization and Function of Human Visual Cortex

Theme D – Sensory Systems

Mon. 8:00 AM – *McCormick Place, N427*

8:00 **268.01** Human visual cortex is organized along two genetically opposed gradients with unique developmental and evolutionary origins. J. GOMEZ*; Z. ZHEN; K. S. WEINER. *Univ. of California Berkeley, Beijing Normal Univ.*

8:15 **268.02** Typical functional selectivity and connectivity in category-selective visual cortex in children with unilateral ventral cortex resection. M. BEHRMANN*; S. KASTNER; M. A. PINSK; E. FREUD. *Carnegie Mellon Univ., Princeton Univ., York Univ.*

8:30 **268.03** Discrete size tuning in the cortical receptive field mappings of Hubel & Wiesel. C. W. TYLER*. *Smith-Kettlewell Eye Res. Inst.*

8:45 **268.04** Benchmarking population receptive fields with fMRI and large-scale neurophysiological recordings in awake non-human primates. P. C. KLINK*; X. CHEN; W. VANDUFFEL; D. DENYS; P. R. ROELFSEMA. *Netherlands Inst. for Neurosci., Amsterdam UMC, Univ. of Amsterdam, KU Leuven, Harvard Med. Sch., VU Univ.*

9:00 **268.05** Assessing uncertainty in cortico-cortical population receptive field estimations. A. INVERNIZZI*; K. V. HAAK; J. CARVALHO; R. J. RENKEN; F. W. CORNELISSEN. *UMCG, Radboud Univ.*

9:15 **268.06** Real-time pRF mapping using gradient descent on hashed-gaussian tiles. S. BHAT; M. LÜHRS; R. GOEBEL; M. SENDEN*. *Maastricht Univ., Fac. of Psychology and Neurosci.*

9:30 **268.07** Population receptive fields expose different somatosensory areas in humans during vibrotactile fingertip stimulation. W. SCHELLEKENS*; J. WINAWER; N. F. RAMSEY; N. PETRIDOU. *UMC Utrecht, New York Univ., Brain Ctr. Rudolf Magnus, Univ. of Utrecht.*

9:45 **268.08** Micro-probing the brain: High-resolution functional mapping of neuronal subpopulations. J. CARVALHO*; A. INVERNIZZI; K. AHMADI; M. B. HOFFMANN; R. J. RENKEN; F. W. CORNELISSEN. *Univ. Med. Ctr. Groningen, Otto-von-Guericke Univ.*

- ● Indicated a real or perceived conflict of interest, see page 150 for details.
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10:00 **268.09** Superficial V1 layers contain information on visual illusions, whereas mental imagery is decodable in deep V1 layers. J. BERGMANN*; A. T. MORGAN; L. MUCKLI. *Univ. of Glasgow.*

10:15 **268.10** Predictive processing helps categorisation by amplifying responses to low contrast stimuli (fMRI of V1). G. DONNELLY*; J. BERGMANN; T. LUX; M. BENNETT; L. S. PETRO; W. A. PHILLIPS; L. MUCKLI. *Univ. of Glasgow, Univ. of Stirling.*

10:30 **268.11** Differential white matter connections to ventral and lateral occipito-temporal face-selective regions underlie differences in visual field coverage. D. FINZI*; J. GOMEZ; A. A. REZAI; M. NORDT; V. S. NATU; B. L. JESKA; M. BARNETT; K. GRILL-SPECTOR. *Stanford Univ., Univ. of California Berkeley, Univ. of Texas Southwestern Med. Ctr., Univ. of Pennsylvania.*

10:45 **268.12** Goal-directed processing modulates the 2-pathway characterization of occipitotemporal and posterior parietal visual object representations. Y. XU*; M. VAZIRI-PASHKAM. *Yale Univ., Natl. Inst. of Mental Hlth.*

11:00 **268.13** Topographic maps representing haptic numerosity in the human brain. S. HOFSTETTER*; Y. CAI; B. M. HARVEY; S. O. DUMOULIN. *Spinoza Ctr. for Neuroimaging, Utrecht Univ.*

11:15 **268.14** Altered large-scale cortical organization of shape processing in visual agnosia. E. FREUD*; M. BEHRMANN. *York Univ., Carnegie Mellon Univ.*

NANOSYMPOSIUM

269. Neural Mechanisms for Controlling Continuous Action

Theme F – Integrative Physiology and Behavior

Mon. 8:00 AM – *McCormick Place, S403*

8:00 **269.01** Dynamic control of motor sequences during foraging. J. M. LI*; D. N. ROBSON. *Harvard Univ.*

8:15 **269.02** Sensorimotor activity in midbrain circuits of a freely swimming weakly electric fish during refuge tracking. I. UYANIK*; N. J. COWAN; E. S. FORTUNE. *Johns Hopkins Univ., Johns Hopkins Univ., New Jersey Inst. of Technol.*

8:30 **269.03** Identifying internal states that guide natural behavior. A. J. CALHOUN*; J. W. PILLOW; M. MURTHY. *Princeton Univ., Princeton Neurosci. Inst., Princeton Univ.*

8:45 **269.04** Unsupervised and continuous mapping of behavioral variation. R. YORK*; L. BREZOVEC; T. CLANDININ. *Stanford Univ., Stanford.*

9:00 **269.05** Multi-animal pose estimation using deep neural networks for social behaviors. T. D. PEREIRA*; S. RAVINDRANATH; J. SHAEVITZ; M. MURTHY. *Princeton Univ., Princeton Univ., Princeton Univ., Princeton Univ.*

9:15 **269.06** Using augmented reality and a control theoretic approach to characterize computation of path integration in rodents. M. S. MADHAV*; R. P. JAYAKUMAR; S. G. LASHKARI; F. SAVELLI; J. J. KNIERIM; N. J. COWAN. *Johns Hopkins Univ., Johns Hopkins Univ., Johns Hopkins Univ., Johns Hopkins Univ.*

9:30 **269.07** Neural and behavioral responses to naturalistic visual stimuli in the house mouse. J. L. HOY*. *Univ. of Nevada, Reno.*

9:45 **269.08** The shift from life in water to life on land selected for the evolution of planning circuitry. U. MUGAN*; M. A. MACIVER. *Northwestern Univ., Northwestern Univ.*

10:00 **269.09** Dynamic decisions and strategic repertoires in simulated multi-prey pursuit. J. M. PEARSON*; L. YIN; S. YOO; B. Y. HAYDEN. *Duke Univ., Univ. of Minnesota, Univ. of Minnesota Twin Cities.*

10:15 **269.10** Neural basis of spatiotemporally continuous action. S. YOO*; B. Y. HAYDEN. *Univ. of Minnesota.*

10:30 **269.11** Neural dynamics of the fronto-parietal reach network in unrestrained rhesus macaques are not simply explained by 3D arm kinematics in a goal-directed full-body walk-and-reach task. M. BERGER*; N. AGHA; A. GAIL. *German Primate Ctr., Univ. of Goettingen, Bernstein Ctr. for Computat. Neurosci.*

10:45 **269.12** Markerless pose estimation in freely moving rhesus macaques reveal principal components of foraging behavior. B. R. EISENREICH*; P. BALA; Y. JAFFARIAN; H. PARK; J. ZIMMERMANN; B. Y. HAYDEN. *Univ. of Minnesota, New York Univ., Univ. of Minnesota.*

11:00 **269.13** Flexible learning of three-dimensional place contingencies in freely-moving macaques. D. C. ALLEN; W. ZINKE; S. MOTORNY; C. L. SUELL; K. L. HOFFMAN*. *Vanderbilt Univ., Vanderbilt Univ.*

NANOSYMPOSIUM

270. Neural Mechanisms Underlying Depression and Anxiety

Theme G – Motivation and Emotion

Mon. 8:00 AM – *McCormick Place, S505*

8:00 **270.01** ● Pro-cognitive and neurotrophic effects of enhancing a5-GABAA receptor functions in adult and aged mice. T. D. PREVOT*; G. LI; D. E. KNUTSON; J. M. COOK; E. SIBILLE. *CAMH - Univ. of Toronto, Univ. WI-Milwaukee.*

8:15 **270.02** Sex differences in antidepressant response following nucleus reuniens lesion. C. DALLA*; V. KAFETZOPOULOS; H. LEITE-ALMEIDA; I. SOTIROPOULOS; N. SOUSA; K. ANTONIOU; N. KOKRAS. *Med. School, Natl. and Kapodistrian Univ. of Athens, ICVS, Med. School, Univ. Minho, Med. School, Univ. of Ioannina.*

8:30 **270.03** Effects of subchronic oral ketamine on behavioral despair and spatial memory in rats. A. ECEVITOGLU; R. CANBEYLI; G. UNAL*. *Bogazici Univ.*

8:45 **270.04** CX614, a positive AMPA receptor modulator, is a better antidepressant alternative to ketamine. H. JOURDI*; M. KABBAJ. *Univ. of Balamand, Florida State Univ.*

9:00 **270.05** Impact of ketamine on fear memory extinction and hippocampal protein expression in a preclinical model of depression. J. JOHNSTON; B. KULYK; R. ROMAY-TALLON; H. CARUNCHO; L. E. KALYNCHUK*. *Univ. of Victoria, Univ. of Saskatchewan.*

9:15 **270.06** Cyclical corticosterone administration as an animal model of recurrent depression results in aggravation of depression-like behaviour and accompanying changes in neurobiological markers. J. ALLEN; K. A. LEBEDEVA; E. KULHAWY; L. KALYNCHUK; H. J. CARUNCHO*. *Univ. of Victoria, Univ. of Saskatchewan, Life Sci. Innovation Hub.*

9:30 **270.07** Endocannabinoid signaling in a septohabenular circuit regulates anxiety-like behavior. C. R. VICKSTROM*; X. LIU; L. YU; S. LIU; Y. HU; C. J. HILLARD; Q. LIU. *Med. Col. of Wisconsin.*

- ● Indicated a real or perceived conflict of interest, see page 150 for details.
- ▲ Indicates a high school or undergraduate student presenter.
- * Indicates abstract's submitting author

9:45 **270.08** High-fat diet impact on the gut microbiota, serotonergic systems within the dorsal raphe nucleus, and anxiety-like behavior in Wistar rats. S. I. NORONHA; J. E. HASSELL, JR; C. STAMPER; M. R. ARNOLD; J. D. HEINZE; G. S. CAMPOS; A. R. R. ABREU; P. LIMA; M. LIEB; K. M. LOUPY; B. KARNS; S. JAECKEL; D. A. CHIANCA, Jr; C. A. LOWRY; R. C. DE MENEZES*. *Federal Univ. of Ouro Preto, Univ. of Colorado Boulder.*

10:00 **270.09** Early life stress and FKBP5 interact to enhance anxiety-like symptoms and affect AKT signaling in young adult mice. M. CRIADO-MARRERO*; N. GEBRU; L. GOULD; C. A. DICKEY; L. J. BLAIR. *Univ. of South Florida.*

10:15 **270.10** Evolution from fear to anxiety: Live imaging of brain states and role of the serotonergic system. D. R. BARTO*; T. W. USELMAN; E. L. BEARER. *Univ. of New Mexico Hlth. Sci. Ctr., Caltech.*

10:30 **270.11** Serotonin transporter lacking mice are resilient to anxiety after early life adversity: Using MEMRI to obtain a bird's-eye view of the brain. T. W. USELMAN*; D. R. BARTO; R. E. JACOBS; E. L. BEARER. *Univ. of New Mexico Hlth. Sci. Ctr., USC Keck Sch. of Med., Caltech.*

10:45 **270.12** Evolution of brain states: Brain-wide imaging and role of neuromodulatory systems. E. L. BEARER*; D. R. BARTO; T. W. USELMAN; M. K. HAHN; R. E. JACOBS. *Univ. of New Mexico Hlth. Sci. Ctr., Caltech, Florida Atlantic Univ. Charles E. Schmidt Col., Florida Atlantic Univ. Charles E. Schmidt Col., USC Keck Sch. of Med.*

NANOSYMPOSIUM

271. Learning and Memory: Genes and Signaling

Theme H – Cognition

Mon. 8:00 AM – *McCormick Place, S104*

8:00 **271.01** ▲ Tet2 is a negative regulator of DNA methylation and memory function. K. E. ZENGELER*; H. C. SMITH; A. J. KENNEDY. *Bates Col.*

8:15 **271.02** ● Phospholipase D1 ablation disrupts dorsal-ventral hippocampal axis. T. G. OLIVEIRA*; L. SANTA-MARINHA; I. CASTANHO; R. R. SILVA; A. MIRANDA; F. V. BRAVO; R. CHAN; G. DI PAOLO; V. PINTO. *ICVS/3Bs, Univ. of Minho, Columbia Univ.*

8:30 **271.03** Arg3.1 mediates a critical period for spatial learning and hippocampal networks. X. GAO; S. CASTRO-GOMEZ; J. GRENDEL; D. ISBRANDT; D. KUHL; O. OHANA*. *ZMNH-Univ. Med. Ctr. Hamburg-Eppendorf, Uniklinik Koeln.*

8:45 **271.04** Paradoxical effects of exercise on hippocampal plasticity and cognition in mice with a homozygous null mutation in the serotonin transporter gene. J. ROGERS; F. CHEN; D. STANIC; F. FARZANA; S. LI; A. M. ZELEZNIKOW-JOHNSTON; J. NITHIANANTHARAJAH; L. CHURILOV; P. A. ADLARD; L. LANFUMEY; A. J. HANNAN*; T. RENOIR. *Florey Inst. of Neurosci. and Mental Hlth., Imperial Col. London, Inserm 1266.*

9:00 **271.05** Dissociating cognition in mice lacking neuroligins using rodent touchscreen assays. J. LUO; J. TAN; R. NORRIS; J. NITHIANANTHARAJAH*. *Florey Inst. of Neurosci. and Mental Hlth.*

9:15 **271.06** Synaptic organization and behavior-dependent activity of mGluR8a-innervated GABAergic trilaminar cells projecting from the CA1 area to the subiculum. L. KATONA*; K. HARTWICH; R. TOMIOKA; J. SOMOGYI; D. J. B. ROBERTS; K. WAGNER; A. JOSHI; T. KLAUSBERGER; K. S. ROCKLAND; P. SOMOGYI. *Univ. of Oxford, RIKEN Brain Sci. Inst., Med. Univ. of Vienna.*

9:30 **271.07** Updates on Gadolinium based MRI contrast agents: Deposition, neurogenesis and cognitive impairment? S. M. ALKHUNIZI*; W. ABOU-KHEIR; N. LAWAND. *American Univ. of Beirut, American Univ. of Beirut.*

9:45 **271.08** Disambiguating the role of perirhinal cortex in perception: A biologically plausible computational approach. T. BONNEN*; A. WAGNER. *Stanford Univ.*

10:00 **271.09** Sensorimotor experience remaps visual inputs to a heading direction network. Y. E. FISHER*; J. LU; I. D'ALESSANDRO; R. I. WILSON. *Harvard Med. Sch.*

10:15 **271.10** The flexible generation of a stable heading representation in diverse visual scenes. S. KIM*; A. M. HERMUNDSTAD; S. ROMANI; L. F. ABBOTT; V. JAYARAMAN. *Univ. of California, Santa Barbara, Janelia Res. Campus, HHMI, Columbia Univ.*

NANOSYMPOSIUM

272. Basic, Theoretical, and Translational Research on Human Spatial Cognition

Theme H – Cognition

Mon. 8:00 AM – *McCormick Place, S405*

8:00 **272.01** Origin and distribution of grid-cell-like representations in humans. T. NAVARRO SCHRÖDER*; M. MØRREAUNET; A. VICENTE-GRABOVETSKY; M. NAU; T. STAUDIGL; J. B. JULIAN; J. L. BELLMUND; J. SCHOFFELEN; M. BARTH; D. G. NORRIS; C. F. DOELLER. *Kavli Inst. for Systems Neuroscience, NTNU, Donders Inst. for Brain, Cognition and Behaviour, Radboud Univ., Ludwig-Maximilians-University Munich, NTNU, MPI for Human Cognitive and Brain Sci., Ctr. for Advanced Imaging, Univ. of Queensland.*

8:15 **272.02** Mesoscopic oscillatory signals in human spatial navigation and memory - How grid like representations are modulated by perceptual input. S. MAIDENBAUM*; J. JACOBS. *Columbia Univ., Columbia Univ.*

8:30 **272.03** Low-frequency neural oscillations code distance and temporal duration as measured with scalp EEG and hippocampal intracranial recordings. M. LIANG*; S. K. HAROOTONIAN; E. ISHAM; K. DRAKE; A. D. EKSTROM. *Univ. of Arizona, Univ. of Arizona.*

8:45 **272.04** Decoding spatial information from the phase of neuronal activity in the human entorhinal cortex. Z. NADASDY*; D. H. P. HOWELL; A. TOROK; T. P. NGUYEN; P. MODUR; D. E. BRIGGS; R. J. BUCHANAN. *Univ. of Texas At Austin, HCA Neurosci. Inst., Univ. of Texas At Austin, Brain Imaging Ctr., Baylor Col. of Med., Dell Med. School, The Univ. of Texas at Austin, Dell Med. School, The Univ. of Texas at Austin, Seton Brain and Spine Inst.*

• Indicated a real or perceived conflict of interest, see page 150 for details.
▲ Indicates a high school or undergraduate student presenter.
* Indicates abstract's submitting author

9:00 **272.05** Single-neuron representations of spatial targets in the human medial temporal lobe. M. TSITSIKLIS*; J. MILLER; S. E. QASIM; C. S. INMAN; R. E. GROSS; J. T. WILLIE; E. H. SMITH; S. A. SHETH; C. A. SCHEVON; M. R. SPERLING; A. SHARAN; J. M. STEIN; J. JACOBS. *Columbia Univ., Columbia Univ., Columbia, Emory Univ., Emory Univ. Sch. Med., Emory Univ. Sch. of Med., Univ. of Utah, Baylor Col. of Med., Thomas Jefferson Univ., Thomas Jefferson Univ., Hosp. of the Univ. of Pennsylvania.*

9:15 **272.06** Two senses of direction in human medial temporal lobe. L. KUNZ*; A. BRANDT; P. REINACHER; B. STARESINA; M. TSITSIKLIS; J. JACOBS; A. SCHULZE-BONHAGE. *Univ. of Freiburg, Freiburg Univ. Med. Ctr., Univ. of Birmingham, Columbia Univ., Columbia Univ.*

9:30 **272.07** Decoding mental walkthroughs of spatial memories in an immersive virtual reality environment. R. MASIS-OBANDO*; U. HASSON; K. A. NORMAN; C. BALDASSANO. *Princeton Univ., Columbia Univ.*

9:45 **272.08** Interactions between hippocampal representations of goals and decision points. I. K. BRUNEC*; J. ROBIN; J. D. OZUBKO; M. D. BARENSE; M. MOSCOVITCH. *Univ. of Toronto, Baycrest Hlth. Sci., SUNY Geneseo.*

10:00 **272.09** Deforming the metric of cognitive maps distorts memory. J. L. S. BELLMUND*; W. DE COTHI; T. A. RUITER; M. NAU; C. BARRY; C. F. DOELLER. *MPI for Human Cognitive and Brain Sci., Donders Institute, Radboud Univ., Kavli Inst. for Systems Neuroscience, NTNU, Univ. Col. London, Univ. of Amsterdam.*

10:15 **272.10** Predicting future sequence and distance to goal with multi-scale successor representations. M. W. HOWARD; I. MOMENNEJAD*. *Boston Univ., Columbia Univ.*

10:30 **272.11** The role of the pre-commissural fornix in an extended neuroanatomical network for goal-directed navigation. M. POSTANS*; A. N. WILLIAMS; M. STEFANI; R. LISSAMAN; B. S. KOLARIK; A. P. YONELINAS; A. D. EKSTROM; A. D. LAWRENCE; J. ZHANG; K. S. GRAHAM; C. J. HODGETTS. *Cardiff Univ., Ctr. for the Neurobio. of Learning & Memory, Univ. of California, Dept. of Psychology, Univ. of California, Davis, Univ. of Arizona.*

10:45 **272.12** Developmental differences in optimal locomotion methods for spatial updating in virtual reality. E. BARHORST-CATES*; S. CREEM-REGEHR; J. STEFANUCCI. *Univ. of Utah.*

11:00 **272.13** Neural representation of episodic memory components in the prefrontal cortex measured by fNIRS. J. SHIN*; S. LEE. *Korea Advanced Inst. of Sci. and Technol., Korea Advanced Inst. of Sci. and Technol.*

11:15 **272.14** Selective impairment of path integration in adults at genetic risk for Alzheimer's disease. A. BIERBRAUER*; L. KUNZ; C. A. GOMEZ; M. LUHMANN; S. GETZMANN; E. WASCHER; P. GAJEWSKI; M. FERNANDEZ-ALVAREZ; M. ATIENZA; D. M. CAMMISULI; F. BONATTI; C. PRUNETI; A. PERCESEPE; Y. BELLAALI; B. HANSEEUW; B. A. STRANGE; J. L. CANTERO; N. AXMACHER. *Ruhr Univ. Bochum, Univ. of Freiburg, Ruhr Univ. Bochum, Leibniz Res. Ctr. for Working Envrn. and Human Factors, Tech. Univ. of Dortmund, CIBERNED, Pablo de Olavide Univ., Univ. of Parma, Cliniques Universitaires Saint-Luc, Inst. of Neuroscience, Univ. Catholique de Louvain, Alzheimer's Dis. Res. Centre, Reina Sofia– CIEN Fndn.*

NANOSYMPOSIUM

273. Learning and Decision-Making

Theme H – Cognition

Mon. 8:00 AM – *McCormick Place, S106*

8:00 **273.01** A psychophysical task to quantify and operationalize subjectively perceived boredom. O. DAN*; J. SEILER; S. RUMPEL; O. TÜSCHER; Y. LOEWENSTEIN. *The Hebrew Univ. of Jerusalem, Johannes Gutenberg Univ. Mainz, Univ. Med. Ctr. Johannes Gutenberg-University, Clin. for Psychiatry and Psychotherapy, Hebrew Univ.*

8:15 **273.02** Experimentally induced helplessness in healthy humans modulates cognitive control over Pavlovian bias in action selection. G. CSIFCSÁK; E. MELSÆTER; M. MITTNER. *Dept. of Psychology, UiT The Arctic Universit, Inst. for Psychology, Univ. of Tromsø.*

8:30 **273.03** Dopaminergic manipulation of the explore/exploit trade-off in human decision-making. K. CHAKROUN; D. MATHAR*; A. WIEHLER; F. GANZER; J. PETERS. *Univ. Med. Ctr. Hamburg-Eppendorf, Univ. of Cologne, ICM - Hop. Pitie Salpetriere, Univ. Med. Ctr. Hamburg-Eppendorf.*

8:45 **273.04** Violations of economic rationality in reinforcement learning are driven by a saliency-dependent reward prediction error signal in the ventral striatum. S. GLUTH*; M. SPEKTOR; J. RIESKAMP. *Univ. of Basel, Univ. of Freiburg.*

9:00 **273.05** Human anterior insula encodes prediction error through amplitude modulation of beta oscillations. T. OSSANDON*; P. FUENTEALBA; J. LACHAUX; P. BILLEKE. *Pontificia Univ. Catolica de Chile, INSERM U821, División de Neurociencia, Ctr. de Investigación en Complejidad Social (neuroCICS), Univ. del Desarrollo.*

9:15 **273.06** Hierarchical inference interactions in dynamic environments. T. L. EISSA*; N. W. BARENDREGT; J. I. GOLD; K. JOSIC; Z. P. KILPATRICK. *Univ. of Colorado Boulder, Univ. Pennsylvania, Univ. of Houston, Univ. of Colorado Boulder.*

9:30 **273.07** A computational window into the problem with organoids: Approaching minimal substrates for consciousness. E. L. OHAYON*; A. LAM. *Neurolinx Res. Inst., Inst. for Green and Open Sci.*

9:45 **273.08** Spatiotemporal dynamics of arithmetic processing in the human brain. P. PINHEIRO-CHAGAS*; C. SAVA-SEGAL; S. AKKOL; A. L. DAITCH; J. PARVIZI. *Stanford Univ.*

10:00 **273.09** ▲ Context-aware word embedding models significantly improve prediction of human conceptual similarity relationships. T. GIALLANZA*; M. IORDAN; C. ELLIS; J. D. COHEN. *Southern Methodist Univ., Princeton Univ., Yale Univ.*

10:15 **273.10** Self control costs show sensitivity to temptation intensity, risk and uncertainty. C. M. RAIO*; L. LEONE; P. W. GLIMCHER. *New York Univ., Fordham Univ.*

- • Indicated a real or perceived conflict of interest, see page 150 for details.
- ▲ Indicates a high school or undergraduate student presenter.
- * Indicates abstract's submitting author

NANOSYMPOSIUM

274. Social Cognition: Behavior and Neural Mechanisms II

Theme H – Cognition

Mon. 8:00 AM – *McCormick Place, S401*

8:00 **274.01** Shared time-varying functional network architecture across movie-watching and rest. R. BETZEL*; L. BYRGE; F. ZAMANI ESFAHLANI; D. P. KENNEDY. *Indiana Univ., Indiana Univ.*

8:15 **274.02** Shared structure in neural activity across individuals during learning and during test facilitates performance in an introduction to computer science course. M. MESHULAM*; L. HASENFRATZ; H. HILLMAN; Y. LIU; M. NGUYEN; K. A. NORMAN; U. HASSON. *Princeton Univ.*

8:30 **274.03** Brain-to-brain synchrony predicts long-term memory retention more accurately than individual brain measures. I. DAVIDESCO*; E. LAURENT; H. VALK; T. WEST; S. DIKKER; C. MILNE; D. POEPPEL. *New York Univ.*

8:45 **274.04** Shared and converging brain responses across people during self-guided exploration of complex photographs and paintings. E. MUSZ*; B. BELLANA; X. ZUO; J. CHEN. *Johns Hopkins Univ.*

9:00 **274.05** Brain-to-brain coupling during teaching and learning. M. NGUYEN*; A. CHANG; M. MESHULAM; S. NASTASE; U. HASSON. *Princeton Univ., Princeton Univ.*

9:15 **274.06** An interbrain approach for understanding empathy. S. G. S. SHAMAY-TSOORY*; P. GOLDSTEIN. *Univ. of Haifa, Univ. of Haifa.*

9:30 **274.07** Lipreading and listening naturalistic narratives. M. E. SAMS*; M. BACHA-TRAMS; E. GLEREAN; U. HASSON; I. P. JÄÄSKELÄINEN; S. SAALASTI; J. M. LAHNAKOSKI. *Aalto Univ., Aalto Univ., Princeton Univ.*

9:45 **274.08** Students watching educational videos with high inter-subject correlation obtain high test scores. J. MADSEN*; S. S. COHEN; S. JULIO; P. GUCIK; R. STEINBERG; L. C. PARRA. *City Col. of New York, City Col. of New York.*

10:00 **274.09** The clinical relevance of studying the neurobiology of real-world dynamic social interactions. S. DIKKER; D. BEVILACQUA*; G. DUMAS; E. AJODAN; E. CLARK-WHITNEY; R. JONES. *New York Univ., Inst. Pasteur, Sackler Inst. for Developmental Psychology.*

10:15 **274.10** Tracking neural alignment due to natural conversation. B. SIEVERS; C. WELKER; T. WHEATLEY*. *Harvard Univ., Dartmouth.*

NANOSYMPOSIUM

275. Single-Cell Analysis of Cortical Cell Type Diversity

Theme I – Techniques

Mon. 8:00 AM – *McCormick Place, S404*

8:00 **275.01** Cross areal cellular diversity in human cortex. T. E. BAKKEN*; R. D. HODGE; J. A. MILLER; Z. YAO; S. DING; L. T. GRAYBUCK; J. GOLDY; J. CLOSE; D. BERTAGNOLLI; S. I. SHEHATA; C. RIMORIN; A. TORKELSON; M. TIEU; T. CASPER; D. MCMILLEN; T. PHAM; A. GLANDON; K. WARD; J. SULC; K. CRICHTON; H. TUNG; E. BARKAN; M. KROLL; N. DEE; S. M. SUNKIN; K. SMITH; C. KOCH; B. TASIC; H. ZENG; E. LEIN. *Allen Inst. for Brain Sci.*

8:15 **275.02** Understanding progenitor and neuronal cell type identity in the developing human brain. A. BHADURI*; U. EZE; M. ANDREWS; C. SANDOVAL-ESPINOSA; T. NOWAKOWSKI; A. KRIEGSTEIN. *Univ. of California San Francisco.*

8:30 **275.03** Innovations in interneuron repertoire across mice and primates. F. M. KRIENEN*; G. J. FISHELL; G. FENG; S. MCCARROLL. *Harvard Med. Sch., Broad Inst. of Harvard and MIT, Harvard Med. Sch., MIT.*

8:45 **275.04** ● Single cell chromatin accessibility profiling reveals distinct epigenome landscape in developing and adult mouse brain. L. WANG*; F. MESCHI; C. NEMEC; J. WANG; A. PULEO; P. SHAH; B. OLSEN; A. GONZALEZ; P. GIRESI; G. ZHENG. *10X Genomics.*

9:00 **275.05** Linking projection neuron types to epigenetic profiles by single-cell methylome sequencing. Z. ZHANG*; J. ZHOU; Y. PANG; A. RIVKIN; P. A. MIYAZAKI; A. BARTLETT; A. ALDRIDGE; J. R. NERY; R. CASTANON; M. RASHID; M. VU; M. JACOBS; T. ITO; E. WILLIAMS; J. B. SMITH; C. LEE; K. LEE; X. JIN; M. BEHRENS; E. A. MUKAMEL; E. M. CALLAWAY; J. R. ECKER. *The Salk Inst. For Biol. Studies, Univ. of California, The Salk Inst. For Biol. Studies, The Salk Inst. For Biol. Studies, The Salk Inst. For Biol. Studies, The Salk Inst. For Biol. Studies, Univ. of California San Diego, Howard Hughes Med. Inst.*

9:15 **275.06** Single cell analysis of gene regulatory elements in the mouse brain. Y. E. LI*; S. PREISSL; R. FANG; X. HOU; O. POIRION; X. WANG; J. Y. HAN; J. LUCERO; S. KUAN; J. CHIOU; D. GORKIN; E. MUKAMEL; K. GAULTON; M. BEHRENS; J. R. ECKER; B. REN. *Ludwig Inst. for Cancer Res., Ctr. for Epigenomics, UCSD, UC San Diego, Ludwig Inst. For Cancer Res., Salk Inst. for Biol. Studies, Ludwig Inst. for Cancer Res., UCSD, UCSD, The Salk Inst., Salk Inst.*

9:30 **275.07** NeMO analytics: A multi-omic visualization and analysis resource for the BRAIN initiative. S. A. AMENT*; J. ORVIS; B. GOTTFRIED; A. CHATTERJEE; J. KANCHERLA; B. HERB; A. M. CASELLA; K. ROSE; H. CORRADA BRAVO; C. COLANTUONI; A. MAHURKAR; O. WHITE; R. HERTZANO. *Univ. of Maryland Sch. of Med., Univ. of Maryland Sch. of Med., Univ. of Maryland Sch. of Med., Univ. of Maryland at Col. Park, Univ. of Maryland Sch. of Med., Univ. of Maryland Sch. of Med., Univ. of Maryland Sch. of Med., Univ. of Maryland Sch. of Med.*

9:45 **275.08** A computational methodology for reconciling brain atlas hierarchies within and across species. B. HUO*; P. P. MITRA. *Cold Spring Harbor Lab.*

10:00 **275.09** BrainVar data set: Whole-genome and RNA sequencing reveal variation and transcriptomic coordination in the developing human prefrontal cortex. D. M. WERLING*; S. POCHAREDDY; J. CHOI; J. AN; B. SHEPPARD; M. PENG; Z. LI; G. SANTPERE; F. O. GULDEN; M. S. BREEN; M. E. TALKOWSKI; K. ROEDER; M. STATE; B. DEVLIN; S. SANDERS; N. SESTAN. *Univ. of California, San Francsico, Yale Sch. of Med., Korea Univ., Univ. of California, San Francisco, Carnegie Mellon Univ., Yale Univ., Icahn Sch. of Med. at Mount Sinai, Massachusetts Gen. Hosp., Univ. of Pittsburgh Sch. of Med.*

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▲ Indicates a high school or undergraduate student presenter.
* Indicates abstract's submitting author

POSTER

276. Nervous System Patterning and Transplantation

Theme A – Development

Mon. 8:00 AM – *McCormick Place, Hall A*

8:00 A1 **276.01** Excitatory to inhibitory transition in GABAergic currents guides circuit formation of cortical interneurons. K. ZAVALIN*; A. HASSAN; Z. KHERA; E. DELPIRE; A. H. LAGRANGE. *Vanderbilt Univ., Vanderbilt Univ. Med. Ctr.*

9:00 A2 **276.02** ▲ Effect of body weight and breeding position within the uterine horn on the hippocampus of the Wistar rat. B. RUIZ VELÁSQUEZ*; R. HUDSON; I. JIMÉNEZ; P. PACHECO; M. ALVARADO. *Neurobiología del Desarrollo, Inst. De Neuroetología, Univ. Veracruzana, Inst. de Investigaciones Biomédicas, UNAM, Dept. de Fisiologia, Biofisica y Neurociencias CINVESTAV-IPN.*

10:00 A3 **276.03** ▲ Effect of the intake of blue tortilla additioned with organic acids and processed with microwave, on the development of hipocampo in Wistar rat. P. GONZÁLEZ NIETO*; M. ALVARADO; J. CHÁVEZ SERVIA; R. GUZMÁN GERÓNIMO. *Inst. De Neuroetologia, Inst. de Neuroetologìa, Univ. Veracruzana, CIIDIR-Unidad Oaxaca, Inst. Politécnico Nacional, Inst. de Ciencias Básicas, Univ. Veracruzana.*

11:00 A4 **276.04** ▲ Generation of vascularized brain organoid and a model of brain angioenesis. X. SUN*. *Inst. of Neurosci.*

8:00 A5 **276.05** Unexpected role of imprinted Cdkn1c genomic locus in cortical development. R. BEATTIE*; S. LAUKOTER; F. M. PAULER; K. I. NAKAYAMA; S. HIPPENMEYER. *IST Austria, Kyushu Univ.*

9:00 A6 **276.06** AP-4 modulates ApoER2 secretory trafficking and reelin induces denditic development. M. O. CARACCI*; V. MACIAS; M. MARZOLO. *Pontificia Univ. Catolica De Chile.*

10:00 A7 **276.07** ● A role of autism related Chd8 in normal cerebellar development and motor functions. C. XIANG*; C. DONG; Y. LIN; W. ZHOU; R. Q. LU. *Children's Hosp. of Fudan Univ., Cincinnati Children's Hosp. Med. Ctr.*

11:00 A8 **276.08** Single-cell RNA sequencing of cell populations in the forebrain of embryonic chickens. L. L. BRUCE*; Y. ZHANG; S. KURAPATI; N. J. CHOI; J. ZUO. *Creighton Univ., Creighton Univ.*

8:00 A9 **276.09** Large scale death of retinal astrocytes during normal development mediated by microglia. V. M. PUNAL; C. E. PAISLEY; F. BRECHA; M. A. LEE; R. PERELLI; E. G. O'KOREN; C. R. ACKLEY; D. R. SABAN; B. E. REESE; J. N. KAY*. *Duke Univ., Duke Univ., Univ. of California, Santa Barbara, Univ. of California.*

9:00 A10 **276.10** ▲ Timing and specificity of Emx2 in area patterning. R. PANDEY; B. ALROBAEI; N. SINGH; H. TIEWAH; A. MEKONNEN; E. GALLMEIER; M. DELBRUNE; J. VIGILANT; K. ACCILIEN; A. M. STOCKER*. *Minnesota State Univ. Moorhead.*

10:00 A11 **276.11** ● Transcriptional regulation of cortical development by CoupTF1, Emx2 and Pax6. A. R. YPSILANTI*; K. PATTABIRAMAN; R. CATTO-PRETTA; O. GOLONZHKA; S. LINDTNER; K. TANG; I. JONES; Y. SHEN; A. ABNOUSI; I. JURIC; M. HU; M. J. HAWRYLYCZ; C. L. THOMPSON; H. ZENG; I. BAROZZI; A. S. NORD; J. L. RUBENSTEIN. *UCSF, Univ. of California Davis Ctr. for Neurosci., Inst. of Life Science, Nanchang Univ., UCSF, Cleveland Clin. Fndn., Allen Inst. Brain Sci., Allen Inst. for Brain Sci., Imperial Col., Univ. of California San Francisco.*

11:00 A12 **276.12** Genetic mapping of diversity among developing brainstem motor neuron subtypes at single cell resolution. M. F. ROSE*; A. P. TENNEY; D. CREIGHTON; A. GELBER; M. A. TISCHFIELD; T. COLLINS; A. A. NUGENT; P. ANG; S. IZEN; M. R. BAUER; W. HUANG; R. SATIJA; O. ROZENBLATT-ROSEN; A. REGEV; E. C. ENGLE. *Boston Children's Hosp., Boston Children's Hosp., Boston Children's Hosp., New York Genome Ctr., The Broad Inst.*

8:00 A13 **276.13** Pou3f1 identifies a novel subtype of glutamatergic cerebellar nuclear neurons in the mouse cerebellum. J. T. YEUNG*; J. P. WU; M. RAMIREZ; R. ROBERT; F. CONSORTIUM; D. GOLDOWITZ. *Univ. of British Columbia, Univ. of California, Berkeley, Univ. of British Columbia, Univ. de Rennes 1, RIKEN Japan, Ctr. for Mol. Med. & Ther.*

9:00 A14 **276.14** Characterizing Msx genes in mouse cerebellar development. I. GUPTA*; F. CONSORTIUM; J. YEUNG; D. GOLDOWITZ*. *Univ. of British Columbia, RIKEN.*

10:00 A15 **276.15** Understanding the development of spinal sensory interneurons through *in vitro* differentiation of mouse embryonic stem cells. S. GUPTA*. *UCLA.*

11:00 A16 **276.16** Early forebrain neurons and scaffold fibers in human embryos. J. QIN; M. WANG; T. ZHAO; A. GOFFINET; Y. QU*; L. ZHOU. *GHM Inst. of CNS Regeneration, Jinan Univ., Guangzhou Women and Children'S Med. Ctr.*

8:00 A17 **276.17** Engineering cortical layers to enhance engraftment of neurons. A. QUEZADA*; N. IFEDIORA; J. M. HEBERT. *Albert Einstein Col. of Med.*

9:00 A18 **276.18** Reassembling neural circuits in rat-mouse interspecies chimeras. B. T. THROESCH*; J. WU; R. MUNOZ CASTANEDA; M. SAKURAI; P. OSTEN; J. IZPISUA BELMONTE; K. K. BALDWIN. *The Scripps Res. Inst., Univ. of California San Diego, Univ. of Texas Southwestern, Salk Inst., Cold Spring Harbor Lab.*

10:00 A19 **276.19** An anatomical reference atlas of developing human brain at middle gestation: Segmentation based on a combinatorial expression of marker genes. S. DING*; J. ROYALL; P. LESNER; B. A. C. FACER; K. A. SMITH; L. NG; N. DEE; R. DALLEY; S. M. SUNKIN; J. W. PHILLIPS; M. HAWRYLYCZ; I. A. GLASS; A. R. JONES; C. KOCH; A. BERNARD; E. S. LEIN. *Allen Inst. For Brain Sci., Univ. of Washington.*

- ● Indicated a real or perceived conflict of interest, see page 150 for details.
- ▲ Indicates a high school or undergraduate student presenter.
- * Indicates abstract's submitting author

POSTER

277. Postnatal Neurogenesis: Molecular Mechanisms

Theme A – Development

Mon. 8:00 AM – *McCormick Place, Hall A*

8:00 A20 **277.01** Normal brain development and impaired exploratory behavior in transgenic mice overexpressing the polysialyltransferase ST8SiaIV in neuron. S. NGAMLI FEWOU*; I. RÖCKLE; H. HILDEBRANDT; M. ECKHARDT. *Fac. of Hlth. Sciences, Univ. Des Montagnes, Inst. für Klinische Biochemie, Medizinische Hochschule Hannover, Inst. für Biochemie und Molekularbiologie, Univ. Bonn.*

9:00 A21 **277.02** Characterization of nesprin-3 in mammalian neural stem cells. T. PORTER*; C. S. MORROW; K. AKO-ASARE; H. J. HEO; A. SONNENBERG; D. L. MOORE. *Univ. of Wisconsin - Madison, The Netherlands Cancer Inst.*

10:00 A22 **277.03** Early generated interneurons regulate neuronal circuit formation during early postnatal development. C. WANG; J. MA; Y. XU; S. JIANG; Y. YU*. *Fudan Univ.*

11:00 A23 **277.04** Effects of neonatal exposure to an anesthetic midazolam on neural stem / progenitor cell behavior in the adult mouse hippocampus. H. DOI*; T. MATSUDA; K. YAMAURA; S. HOKA; K. NAKASHIMA. *Grad. Sch. of Med. Sciences,Kyushu Univ., Grad. Sch. of Med. Sciences, Kyushu Univ.*

8:00 A24 **277.05** Ganglioside GD3 is required for maintenance of mitochondrial dynamics and neuronal morphogenesis in adult neurogenesis. F. TANG*; J. WANG; Y. ITOKAZU; R. K. YU. *Augusta Univ.*

9:00 A25 **277.06** The cellular and molecular attributes of adult neurogenesis and brain regeneration in zebrafish. S. ANAND*; A. MONDAL. *Jawaharlal Nehru Univ.*

10:00 A26 **277.07** Jedi-1 is a novel regulator of postnatal neurogenesis. K. A. KATDARE*; M. N. TUGEND; F. E. HICKMAN; R. A. IHRIE; B. D. CARTER. *Vanderbilt Univ., Vanderbilt Univ.*

11:00 A27 **277.08** Divergent recombination of floxed sequences undermines the accuracy of stop-floxed reporters as indicators of global genetic recombination within single cells: Implications for studies of cell autonomous effects of gene knockdown. T. J. DAUSE*; E. D. KIRBY. *Ohio State, Ohio State.*

8:00 A28 **277.09** The role of microglia in neuroblast migration in the olfactory system. S. J. MELLER*; E. MARTÍN-LÓPEZ; T. LIBERIA; C. A. GREER. *Yale Univ. Sch. of Med.*

9:00 A29 **277.10** Microglia and complement signaling in dendritic morphogenesis and behavioral output of adult-born neurons. K. MCDERMOTT*; M. FRECHOU; E. WOOD; J. GONCALVES. *Albert Einstein Col. of Med.*

10:00 A30 **277.11** ▲ Assessment of neurogenesis and brain connectome in MPS I mice with iduronidase deficiency. C. PEARCE*; W. ZHU; P. HACKETT; W. CHEN; X. ZHU; W. C. LOW. *Univ. of Minnesota.*

11:00 A31 **277.12** Cdk1 is essential for long-term maintenance of neural stem cells in the postnatal hippocampus. R. VANDENBOSCH*; Q. MARLIER; S. VERTENEUIL; P. KALDIS; M. BARBACID; D. SANTAMARIA; L. NGUYEN; B. MALGRANGE. *Univ. of Liège, Inst. of Mol. and Cell Biol. (IMCB), Ctr. Nacional de Investigaciones Oncológicas (CNIO), Univ. of Bordeaux, INSERM U1218, ACTION Laboratory, IECB.*

8:00 A32 **277.13** A role for polycomb repressive proteins in acquisition of the mature NMDAR phenotype at hippocampal synapses. H. BYUN*; J. HWANG; B. COURT-VAZQUEZ; R. ZUKIN. *Albert Einstein Col. of Med., Creighton Univ. Sch. of Med.*

9:00 A33 **277.14** Control of neural stem cell specification in the postnatal forebrain by antagonist function of Vax1 and Pax6. N. CORÉ*; A. ERNI; C. BÉCLIN; H. CREMER. *IBDM CNRS-UMR7288.*

10:00 A34 **277.15** Ketamine treatment during late adolescence decreases the inhibitory synaptic transmission and reduces the adult neurogenesis in the rat dorsal dentate gyrus. O. SANTANDER; F. GARCÍA; C. CERNA; A. E. CHÁVEZ; M. V. GUERRA; L. VARELA-NALLAR; M. A. FUENZALIDA*. *Univ. De Valparaiso, Univ. De Valparaiso, Univ. De Valparaiso, Ctr. Inv. Biomedicas, Univ. Andres Bello.*

11:00 A35 **277.16** Effect of cannabinoid exposure during gastrulation on neuronal development in zebrafish. M. AMIN*; K. AHMED; D. ALI. *Univ. of Alberta.*

8:00 A36 **277.17** Regulated intramembrane proteolysis of neuregulin 1 is important for postnatal hippocampal neurogenesis and neuronal development. A. JONE*; P. M. RAJEBHOSALE; L. W. ROLE; D. A. TALMAGE. *Stony Brook Univ., Stony Brook Univ., Stony Brook Univ., Stony Brook Univ.*

9:00 A37 **277.18** ● PITPNA and PITPNB cooperate in maintaining neural stem cells self-renewal via GOLPH3-dependent notch signaling during mouse brain development. S. K. HUR*; V. BANKAITIS. *Univ. of Pennsylvania, Texas A&M Univ.*

10:00 A38 **277.19** A conditional knockout mouse model to study the specific role of cyclin D2 in brain development, adult neurogenesis and human brain pathologies. V. GOYAL; S. A. ZAHRA; C. HENNINGS; G. ZIMMER-BENSCH; C. BEETZ; C. W. SCHMEER*; C. HUEBNER; O. W. WITTE; A. URBACH. *Jena Univ. Hosp., Inst. of Human Genet., RWTH Aachen Univ., Jena Univ. Hosp.*

11:00 A39 **277.20** Differential effects of cyclin D2 ablation on the self-renewal capacity of postnatal and adult hippocampal stem cells and dynamic expression of D-cyclins during precursor differentiation *in vitro.* A. SYEDA ZAHRA; O. W. WITTE; A. URBACH*. *Jena Univ. Hosp.*

8:00 A40 **277.21** ▲ Postnatal development and spatial distribution of neuromuscular junctions and innervated nerves in mouse skeletal muscles. J. XU*; T. YU; Y. LI; Y. YAO; D. ZHU. *Britton Chance Ctr. for Biomed. Photonics, Wuhan Natl. Lab. for Optoelectronics, Huazhong Univ. of Sci. and Technology, Wuhan, China, MoE Key Lab. for Biomed. Photonics, Collaborative Innovation Ctr. for Biomed. Engineering, Sch. of Engin. Sciences, Huazhong Univ. of Sci. and Technology, Wuhan, China.*

9:00 A42 **277.23** Cord blood-derived exosomal contactin-2 and BDNF: Biomarkers for brain health of neonates at risk for iron deficiency? T. M. MATVEEVA*; P. MARELL; S. BLOHOWIAK; P. KING; M. GEORGIEFF; P. V. TRAN. *Univ. of Minnesota, Univ. of Minnesota.*

● Indicated a real or perceived conflict of interest, see page 150 for details.
▲ Indicates a high school or undergraduate student presenter.
* Indicates abstract's submitting author

10:00 A41 **277.22** Thalamocortical axons regulate neurogenesis in sensory areas of the mouse neocortex. T. R. MONKO*; J. STOLLEY; S. DABRUZZI; P. GONCHAROV; Y. NAKAGAWA. *Univ. of Minnesota Twin Cities.*

POSTER

278. Pluripotent Stem Cells and Organoid Models of Degenerative Diseases

Theme A – Development

Mon. 8:00 AM – *McCormick Place, Hall A*

8:00 A43 **278.01** iPSC derived engineered cerebral organoids as *in vitro* models of tauopathy. C. E. J. LOVEJOY*; A. ALATZA; C. ARBER; J. HARDY; S. WRAY. *UCL, Queen Square Inst. of Neurol., UK Dementia Res. Inst. at UCL.*

9:00 A44 **278.02** Repeat associated non-AUG translation of dipeptide repeat proteins in C9orf72 ALS/FTD patient iPSC-derived neurons. S. E. SALOMONSSON*; K. M. WILSON; B. MURALIDHARAN; I. GLARIA; M. BICTASH; A. MONAGHAN; P. J. WHITING; A. M. ISAACS. *Univ. Col. London, Univ. Col. London, Alzheimers Res. UK UCL Drug Discovery Inst.*

10:00 A45 **278.03** Profiling bioenergetics in iPSC-derived brain cells from Alzheimer's disease patients and non-demented control individuals. W. RYU*; R. A. HEALY; M. BORMANN; L. WANG; M. SHEN; B. M. COHEN; K. C. SONNTAG. *Mclean Hospital/Harvard Med. Sch., McLean Hospital, Harvard Med. Sch.*

11:00 A46 **278.04** Inflammatory neuropathies *in vitro*: From detecting autoantibodies to measuring conduction in an iPSC-based model. L. E. JOHANSEN*; O. HARSCHNITZ; M. D. JANSEN; H. KARST; C. J. WIERENGA; C. CURIAL; L. M. BLOEMENKAMP; D. N. VONK; J. PRADO; R. VIEIRA DE SÁ; S. KLING; L. H. VAN DER BERG; R. J. PASTERKAMP; W. L. VAN DER POL. *Univ. Med. Ctr. Utrecht, Utrecht Univ., Univ. Med. Ctr. Utrecht, Utrecht Univ., Sloan-Kettering Inst. for Cancer Res., Sloan-Kettering Inst. for Cancer Res., Utrecht Univ., Univ. Med. Ctr. Utrecht, Utrecht Univ., ISAR Biosci. Gmbh.*

8:00 A47 **278.05** Establishing a centralized repository of human pluripotent stem cells for neurodegeneration research. S. K. OHLEMACHER*; K. GILLESPIE; N. R. M. WHITE; M. M. KOVARIK; K. SULLEN; D. W. GREGORY; K. N. NUDELMAN; T. SCHWANTES-AN; J. D. MARSHALL; K. M. FABER; C. M. MITCHELL; M. C. EDLER, JR; J. S. MEYER; T. FOROUD. *Indiana Univ. Sch. of Med.*

9:00 A48 **278.06** ● Generation of two different human microglia cells separately from iPSC derived primitive or definitive hematopoietic progenitors. K. CHOI*; M. L. HENDRICKSON; Z. DU. *Brainxell, BrainXell, Inc.*

10:00 A49 **278.07** ● Maturation of iPSC-derived dopaminergic and cortical neurons with Neuro MQ medium, in a model of Parkinson's disease. J. RICHARD*; I. SILVA; L. REN; M. HONDA; Y. OKUDA; S. EMINLI-MEISSNER; R. MODALI; M. RAO. *REPROCELL USA, REPROCELL Inc, REPROCELL Europe Ltd.*

11:00 A50 **278.08** ● 3D midbrain floorplate model for differentiation of PSC-derived dopaminergic neurons. R. E. JOSEPHSON*; J. SAGAL; S. SHIN; M. DERR; D. KUNINGER. *Thermo Fisher Scientific, Thermo Fisher Scientific Inc.*

8:00 A51 **278.09** Integration of clinical WGS supported by patient specific hiPS cell-based disease modeling and functional genomics translational approach for decoding of unknown neurodevelopmental disorders (UNDs). M. WYPCHLO; T. HAHN; M. RYDZANICZ; A. PRIGIONE; R. KUHN; A. RYBAK-WOLF; S. DIECKE; R. PLOSKI; P. LISOWSKI*. *Med. Univ. of Warsaw, Postgraduate Sch. of Mol. Medicine, Med. Univ. of Warsaw, Max-Delbrück-Center For Mol. Med. (MDC), Med. Univ. of Warsaw.*

9:00 A52 **278.10** Chromatin dynamics in a 3D organoid model of human forebrain development. A. E. TREVINO; N. SINNOTT-ARMSTRONG; J. ANDERSEN; S. YOON; N. HUBER; J. PRITCHARD; H. CHANG; W. J. GREENLEAF; S. P. PASCA*. *Stanford Univ.*

10:00 A53 **278.11** Altered network activity of human cortical neurons lacking FMRP. S. DAS SHARMA*; R. PAL; N. RAJ; B. T. SELVARAJ; B. K. REDDY; K. K. SAMAGA; D. J. SRINIVASAN; L. ORNELAS; D. SAREEN; G. J. BASSELL; C. N. SVENDSEN; P. C. KIND; S. CHANDRAN; S. CHATTARJI; D. J. A. WYLLIE. *Inst. For Stem Cell Sci. and Regenerative Med., The Univ. of Trans-Disciplinary Hlth. Sci. and Technol., Emory Univ., Ctr. for Clin. Brain Sciences, Univ. of Edinburgh, EH16 4SB, The Board of Governors Regenerative Med. Inst. and Dept. of Biomed. Sciences, Cedars-Sinai Med. Ctr., The Board of Governors Regenerative Med. Inst. and Dept. of Biomed. Sciences, Cedars-Sinai Med. Center, 90048, Ctr. for Discovery Brain Sciences, Univ. of Edinburgh, EH8 9XD, Patrick Wild Centre, Univ. of Edinburgh, EH8 9XD, Simons Initiative for the Developing Brain, Univ. of Edinburgh, EH8 9XD, UK Dementia Res. Inst. at the Univ. of Edinburgh, EH16 4SB, Natl. Ctr. for Biol. Sciences, Tata Inst. for Fundamental Res.*

11:00 A54 **278.12** Characterization of the activity-dependent development of IPSC-derived neurons from fragile X patients. G. MAUSSION*; C. ROCHA; V. SOUBANNIER; T. M. DURCAN. *Montreal Neurolog. Inst.*

8:00 A55 **278.13** Analysis of neuronal development in patients with KCNJ11/Kir6.2 mutations using cerebral organoids. G. DALGIN*; A. J. GARCIA, III; A. K. TRYBA; A. COHEN; L. PHILIPSON; S. A. W. GREELEY. *Univ. of Chicago, The Univ. of Chicago, The Univ. of Chicago, Rosalind Franklin Univ.*

9:00 A56 **278.14** Probing the role of astrocytes in fragile X syndrome using human induced pluripotent stem cell-derived astrocytes. B. REN*; Y. JUNG; B. OLDHAM; A. ARMSTRONG; R. GOUGH; P. RAGUNATHAN; A. DUNAEVSKY. *Univ. of Nebraska Med. Ctr., Univ. of Nebraska Med. Ctr.*

10:00 A57 **278.15** Exploring Smith-Magenis syndrome-associated phenotypes in induced pluripotent stem cell (iPSC) - derived neural cells. B. K. ENGLAND*; F. J. GORDOVEZ; J. CROSS; N. AKULA; W. R. CORONA; A. SMITH; S. D. DETERA-WADLEIGH*; F. MCMAHON. *NIH.*

11:00 A58 **278.16** An in-depth analysis of disrupted molecular pathways in Pitt-Hopkins syndrome patient derived neural progenitor cells (NPCs). D. J. HILER; S. SRIPATHY RAO*; M. T. NGUYEN; Y. WANG; M. WARNER; H. CHEN; G. R. HAMERSKY; S. C. PAGE; O. SOUDRY; R. E. STRAUB; K. MARTINOWICH; A. JAFFE; B. J. MAHER. *Lieber Inst. for Brain Develop., Dept. of Human Genetics, Johns Hopkins Sch. of Med., Lieber Inst. for Brain Develop., OHSU, The Solomon H. Snyder Dept. of Neuroscience, Johns Hopkins Sch. of Med., Dept. of Psychiatry and Behavioral Sciences, Johns Hopkins Sch. of Med., Dept. of Mental Health, Johns Hopkins Sch. of Med., Dept. of Biostatistics, Johns Hopkins Sch. of Med.*

- ● Indicated a real or perceived conflict of interest, see page 150 for details.
- ▲ Indicates a high school or undergraduate student presenter.
- * Indicates abstract's submitting author

8:00 A59 **278.17** The role of KIAA0319 in neuronal development and developmental dyslexia. S. PANIAGUA*; B. CAKIR; Y. XIANG; I. H. PARK; J. R. GRUEN. *Yale Univ.*

9:00 A60 **278.18** Quantitative characterization of variability in cortical neurons between healthy human induced pluripotent stem cell lines. R. A. THOMAS*; E. CAI; X. C. CHEN; N. ABDIAN; E. A. FON; T. M. DURCAN. *Montreal Neurolog. Inst. McGill Univ., McGill Univ.*

10:00 A61 **278.19** Engineering human cerebral organoid as a model for studying Down syndrome. Y. LIN*; J. DAVILA; H. MATHYS; H. WOOLF; H. CAM; C. YU; L. TSAI. *MIT, MIT.*

11:00 A62 **278.20** Exploring the role of UBE3A in electrophysiological phenotypes of human Dup15q syndrome neurons. M. ELAMIN*; T. M. ROBINSON; J. JAMES; E. S. LEVINE. *Univ. of Connecticut Sch. of Med.*

8:00 A63 **278.21** siRNA and CRISPR/dCas13b-mediated allele specific reduction of mutant RNA associated with Jordan's syndrome. J. L. CARTER*; J. HALMAI; P. DENG; J. WALDO; S. DEL CAMPO; D. CAMERON; J. ANDERSON; J. NOLTA; K. FINK. *Univ. of California Davis Hlth., Univ. of California Davis Hlth. Systems, Univ. of California Davis Hlth. Systems, Univ. of California.*

9:00 A64 **278.22** Modelling synaptic mechanisms of autism-associated neuroligin-3 mutations using human neurons. L. WANG*; V. R. MIRABELLA; Z. PANG. *Child Hlth. Inst. of NJ, Sch. of Life Sciences, Central South Univ.*

10:00 A65 **278.23** Smith-Magenis syndrome: *In vitro* and *in vivo* evaluation of IPS-derived human neural stem cells for disease modeling and therapeutic approaches. J. D. ROSATI; E. TURCO; D. FERRARI; L. SIRENO; F. ALTIERI; C. BELLO; A. DE JACO; A. TATA; G. LAMORTE; A. PAONE; S. RINALDO; F. CUTRUZZOLÀ; G. MAZZOCCOLI; A. NARDONE; M. DELLA MONICA; L. BERNARDINI; M. GELATI; A. L. VESCOVI*. *Fondazione IRCCS Casa Sollievo della Sofferenza, Univ. of Milan Bicocca, Univ. of Rome La Sapienza, Fondazione IRCCS Casa Sollievo della Sofferenza, Univ. Policlinico Tor Vergata, Azienda Ospedaliera Antonio Cardarelli.*

11:00 A66 **278.24** Individual brain organoids reproducibly generate cell diversity of the human cerebral cortex. S. VELASCO*; A. J. KEDAIGLE; S. K. SIMMONS; A. NASH; M. ROCHA; G. QUADRATO; B. PAULSEN; L. NGUYEN; X. ADICONIS; A. REGEV; J. Z. LEVIN; P. ARLOTTA. *Harvard Univ., Broad Inst., USC.*

8:00 A67 **278.25** Modeling schizophrenia and its polygenic risk using induced pluripotent stem cell-derived neurons. S. C. PAGE*; D. J. HILER; S. SRIPATHY RAO; Y. WANG; C. V. NYUGEN; E. A. PATTIE; Z. YE; H. CHEN; M. TIPPANI; M. T. NGUYEN; F. FARINELLI; N. J. EAGLES; M. C. WARNER; O. R. SOUDRY; K. F. BERMAN; J. A. APUD; D. R. WEINBERGER; R. E. STRAUB; A. E. JAFFE; K. MARTINOWICH; B. J. MAHER. *Lieber Inst. For Brain Develop., Johns Hopkins Sch. of Med., NIH/National Inst. of Mental Hlth., NIH, Natl. Inst. of Mental Hlth., Johns Hopkins Sch. of Med., Johns Hopkins Sch. of Med., Johns Hopkins Sch. of Med.*

9:00 A68 **278.26** Improving functional maturation of human neurons derived from the induces pluripotent stem (IPS) cells- Effects of vitamin E and DHA on synaptic connectivity and ionic conductances. K. M. GLANOWSKA*; C. J. DELONG; J. L. MCMAHON; K. S. O'SHEA; G. G. MURPHY. *Univ. of Michigan, Univ. of Michigan, Univ. of Michigan, Univ. of Michigan, Univ. of Michigan.*

10:00 A69 **278.27** Omega 3 fatty acid and vitamin e promote maturation of neurons derived from induced pluripotent stem cells of bipolar disorder patients. C. DELONG*; K. GLANOWSKA; G. G. MURPHY; K. O'SHEA. *Univ. of Michigan, Univ. of Michigan, Univ. of Michigan.*

11:00 A70 **278.28** Human induced pluripotent stem cell (hiPSC) derived GABAergic and glutamatergic neuron development and function in bipolar disorder. D. J. SCHILL*; K. F. CAMPBELL; K. M. GLANOWSKA; C. J. DELONG; M. G. MCINNIS; G. G. MURPHY; K. O'SHEA. *Univ. of Michigan, Univ. of Michigan, Univ. of Michigan, Univ. of Michigan.*

8:00 A71 **278.29** Characterization of exosomes isolated from bipolar patient plasma and iPSC, roles in neuronal development and plasticity. D. ATTILI; D. SCHILL; C. DELONG; K. CAMPBELL; G. JIANG; B. NAVIS; K. VERSHA; M. MCINNIS; K. O'SHEA*. *Univ. of Michigan Med. Sch., Univ. of Michigan Med. Sch.*

POSTER

279. Molecular Mechanisms of Synaptogenesis and Activity-Dependent Development

Theme A – Development

Mon. 8:00 AM – *McCormick Place, Hall A*

8:00 A72 **279.01** Neurodevelopmental disruptions by PBDES are mediated in part by inhibition of neuronal MEK-ERK signaling. R. POSTON*; K. RIENECKER; L. MURPHY; K. MULLIGAN; A. REJEPOVA; M. GHANINEJAD-ESFAHANI; R. N. SAHA. *Univ. of California Merced, California State Univ. Sacramento.*

9:00 A73 **279.02** Regulation of RNA splicing associated with environmental stimulation in the postnatal brain. F. TSURUTA*; J. KIM; T. TAKETOMI; C. HAMADA; J. NAKAMURA; B. SATO; T. CHIBA. *Univ. of Tsukuba, Univ. of Tsukuba.*

10:00 A74 **279.03** ▲ Structural and functional maturation profile of rat primary motor cortex layer 5b neurons. D. DANNEHL*; B. BENEDETTI; M. JANSSEN; C. CORCELLI; S. COUILLARD-DESPRES; M. ENGELHARDT. *Med. Fac. Mannheim, Heidelberg Univ., Paracelsus Med. Univ.*

11:00 A75 **279.04** ● ▲ Dynamic regulation of synaptopodin and the cisternal organelle in the axon initial segment of retinal ganglion cells during postnatal development. M. JANSSEN; A. SCHLÜTER; S. ROSSBERGER; D. DANNEHL; S. VORWALD; J. HANNE; C. SCHULTZ; D. MAUCERI; M. ENGELHARDT*. *Med. Fac. Mannheim, Heidelberg Univ., Heidelberg Univ., Heidelberg Univ., Abberior Instruments GmbH.*

8:00 A76 **279.05** Characterization of a transgenic mouse line to study the axon initial segment in living neurons. C. THOME*; S. KARABULUT; C. ACUNA GOYCOLEA; E. D'ESTE; A. D. NELSON; C. SCHULTZ; V. BENNETT; P. M. JENKINS; M. ENGELHARDT. *Heidelberg Univ. Hosp., Med. Fac. Mannheim, CBTM, Heidelberg Univ., Heidelberg Univ., Optical Microscopy Facility, Max Planck Inst. for Med. Res., Univ. of Michigan, Inst. of Neuroanatomy, Med. Fac. Mannheim, CBTM, Heidelberg Univ., Dept. of Biochemistry, Duke Univ. Med. Ctr., Univ. of Michigan, Med. Fac. Mannheim, Heidelberg Univ.*

- ● Indicated a real or perceived conflict of interest, see page 150 for details.
- ▲ Indicates a high school or undergraduate student presenter.
- * Indicates abstract's submitting author

9:00 A77 **279.06** Voltage-sensitive dye recording of glossopharyngeal nerve-related synaptic networks in the embryonic mouse brainstem. K. SATO*; Y. MOMOSE-SATO. *Komazawa Women's Univ, Fac. of Human Hlth., Kanto Gakuin University, Col. of Nutr.*

10:00 A78 **279.07** Exposure to nicotine during development disrupts synaptic network formation by inhibiting correlated spontaneous wave activity. Y. MOMOSE-SATO*; K. SATO. *Kanto Gakuin University, Col. of Nutr., Komazawa Women's Univ, Fac. of Human Hlth.*

11:00 A79 **279.08** Morphological annotations reveal the trajectory of cerebellar interneuron diversification. W. X. WANG; J. L. LEFEBVRE*. *Hosp. For Sick Children/ U. of Toronto.*

8:00 A80 **279.09** SCN heterogeneity revealed through developmental patterning of neuropeptide expression. V. CARMONA-ALCOCER*; K. E. ROHR; F. SAABEDRA; A. VALENCIA; N. BURRIESCI; J. A. EVANS. *Marquette Univ.*

9:00 A81 **279.10** Non-ionotropic NMDAR signaling promotes spontaneous and evoked neurotransmitter release in the developing retinotectal system. M. VAN HORN*; L. TIMMINS; A. SCHOHL; V. HIGENELL; S. GLASGOW; P. KESNER; E. RUTHAZER. *McGill Univ.*

10:00 A82 **279.11** Learning to see with closed eyes: Retinal waves tune cortical neurons before eye opening. A. S. HAMODI*; X. GE; M. C. CRAIR. *Yale Univ.*

11:00 A83 **279.12** Epigenetic modulation of auditory system critical period plasticity. B. SCHWARTZ*; W. WANG; S. BAO. *Univ. of Arizona.*

8:00 A84 **279.13** Functional frequency maturation across the perinatal time window. J. CIARRUSTA*; D. BATALLE; R. DIMITROVA; J. O'MUIRCHEARTAIGH; L. CORDERO-GRANDE; A. PRICE; E. HUGHES; D. MURPHY; J. HAJNAL; D. EDWARDS; G. MCALONAN; T. ARICHI. *King's Col. London.*

9:00 A85 **279.14** Long lasting remodeling of hippocampal networks by adult neurogenesis. A. I. GROISMAN*; S. M. YANG; A. F. SCHINDER. *Leloir Inst. (IIBBA-CONICET).*

8:00 DP01/A86 **279.15** (Dynamic Poster) The rich get richer: Serial section electron microscopy reveals that climbing fiber-Purkinje cell synapse rearrangement in the developing mouse cerebellum is economical and begins with positive feedback addition of synapses. A. M. WILSON*; R. SCHALEK; A. SUISSA-PELEG; T. JONES; S. KNOWLES-BARLEY; H. PFISTER; J. W. LICHTMAN. *Princeton Univ., Harvard Univ., Broad Inst., Google, Harvard Univ.*

11:00 B1 **279.16** Antenatal sFLT1 overexposure induces neurodevelopmental milestone delay, cortical thinning and synapse reorganization in juvenile offspring. D. EFFINGER; G. SEEDORF; A. J. LAW; S. H. ABMAN; C. PATERSON*. *Univ. of Colorado Anschutz Med. Campus, Univ. of Colorado Anschutz Med. Campus, Univ. of Colorado Anschutz Med. Campus.*

POSTER

280. Genetic and Environmental Factors for Autism Spectrum Disorders

Theme A – Development

Mon. 8:00 AM – *McCormick Place, Hall A*

8:00 B2 **280.01** Examine the association between gluten sensitivity and the pathophysiology of autism. L. ALZGHOUL*. *The Univ. of Jordan.*

9:00 B3 **280.02** Prevalence, etiology, and treatment of sleep disorders in autism spectrum disorder. B. CHANG*; M. L. BAUMAN. *Boston Univ. Sch. of Med.*

10:00 B4 **280.03** A multicentric, randomised, single-blind phase 2 trial to evaluate the pharmacokinetics and PK/PD of trazodone in children and adolescents with neurodevelopmental disorders and insomnia. F. CALISTI*; V. TELLONE; A. DEL VECCHIO; M. ROSIGNOLI; R. PICOLLO; S. OLIVIERI; F. GAROFOLO; A. CATTANEO; S. TONGIANI. *Angelini RR&D (Research, Regulatory & Development) - Angelini S.p.A.*

11:00 B5 **280.04** Maternal immune challenge enhances neural progenitor cell proliferation and increased hippocampus volume in neonatal rats. Y. PANG*; K. CARTER; M. LOAYZA; L. FAN; A. BHATT. *Univ. of Mississippi Med. Ctr. / Dept of Pediatrics.*

8:00 B6 **280.05** Acute p-cresol induces autism-like behaviors and activates dopamine turnover in BTBR mice: A gene X environment interaction paradigm for autism spectrum disorder. T. PASCUCCI; M. COLAMARTINO; E. FIORI; A. COVIELLO; R. VENTURA; S. PUGLISI-ALLEGRA; R. SACCO; C. LINTAS; M. CANALI; C. TABOLACCI; S. MIRABELLI; L. TURRIZIANI; F. CUCINOTTA; A. RICCIARDELLO; G. CALABRESE; M. BRIGUGLIO; M. LAMBERTI; P. TOMAIUOLO; M. BONCODDO; F. BELLOMO; A. M. PERSICO*. *Sapienza Univ., IRCCS "Fondazione Santa Lucia", CNR, EBRI, Univ. Campus Bio-Medico, Univ. of Messina.*

9:00 B7 **280.06** Gene-environment interactions in an experimental mouse model of neurodevelopmental disorders and stress. M. L. PHAN*; N. JADAV; T. LIU; C. YOHN; J. LUNDEN; X. ZHOU; M. VOLLBRECHT; E. M. DICICCO-BLOOM; B. A. SAMUELS. *Rutgers Univ. Dept. of Psychology, Rutgers Robert Wood Johnson Med. Sch.*

10:00 B8 **280.07** IBA1 immunohistochemistry, peripheral cytokine levels and bacterial profiles in mouse models of ASD. S. M. PARKINSON*; B. BEASLEY; K. SCOTT; W. GILL; R. W. BROWN; M. CHANDLEY. *East Tennessee State Univ., East Tennessee State Univ., East Tennessee State Univ. Dept. of Biomed. Sci.*

11:00 B9 **280.08** Examining a novel gene-environment interaction in autism spectrum disorder. K. TESSEMA*; L. ELAHI; R. GAU; J. A. MARTINEZ-AGOSTO; J. E. LE BELLE; H. KORNBLUM. *UCLA, UCLA, UCLA, UCLA Med. Ctr.*

8:00 B10 **280.09** Oxytocin normalizes altered social circuit connectivity in the Cntnap2 knockout mouse. K. Y. CHOE*; M. SAFRIN; R. A. BETHLEHEM; N. G. HARRIS; D. H. GESCHWIND. *UCLA, UCLA, Univ. of Cambridge, Autism Res. Ctr., Dept. Neurosurgery, UCLA.*

• Indicated a real or perceived conflict of interest, see page 150 for details.
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* Indicates abstract's submitting author

9:00 B11 **280.10** ▲ Investigating the social brain of the CNTNAP2 mouse model of autism with quantitative electron microscopy. G. M. MARCELLO*; K. Y. CHOE; P. SOTONYI; B. RACZ; P. GOLSHANI; D. H. GESCHWIND. *Univ. of Vet. Med. Budapest, UCLA, UCLA Dept. of Neurol., David Geffen Sch. of Medicine, UCLA, Dept. of Neurology, Integrative Ctr. for Learning and Memory, Brain Res. Institute, UCLA, Intellectual Develop. and Disabilities Res. Center, UCLA, UCLA.*

10:00 B12 **280.11** Diminished sodium channels impair dendritic spike generation in layer 5 prefrontal neurons in fragile x syndrome. F. BRANDALISE; B. E. KALMBACH; E. P. COOK; D. H. BRAGER*. *Ctr. Médical Universitaire, Allen Inst. For Brain Sci., McGill Univ., Univ. Texas at Austin.*

11:00 B13 **280.12** Dysfunctional temporoammonic pathway LTP in a mouse model of fragile X syndrome. G. ORDEMANN*; R. A. CHITWOOD; D. H. BRAGER. *Ctr. for Learning and Memory, The Univ. of Texas, The Univ. of Texas, Univ. Texas at Austin.*

8:00 B14 **280.13** Dysfunction of hippocampal inhibitory interneuron function in fragile-X syndrome. L. T. HEWITT*; D. H. BRAGER. *The Univ. of Texas at Austin, Univ. Texas at Austin.*

9:00 B15 **280.14** Sex-specific effects of prenatal omega-3 fatty acids on vocalization production in the Fmr1 knockout mouse. S. O. NOLAN*; S. L. HODGES; M. BINDER; P. D. WOMBLE; J. N. LUGO, JR. *Baylor Univ., Vanderbilt Univ. Sch. of Med., Baylor Univ.*

10:00 B16 **280.15** A single early-life seizure results in long-term behavioral changes in the adult Fmr1 knockout mouse. S. L. HODGES*; C. D. REYNOLDS; S. O. NOLAN; J. L. HUEBSCHMAN; J. T. OKOH; M. S. BINDER; J. N. LUGO. *Baylor Univ., Univ. of North Texas Hlth. Sci. Ctr., Texas A&M Hlth. Sci. Ctr., Baylor Col. of Med.*

11:00 B17 **280.16** Cannabidiol attenuates behavioral and epileptiform deficits in a mouse model of CDKL5 developmental disorder. A. WIEST; M. YENNAWAR; R. S. WHITE*; J. WACKER; F. E. JENSEN. *Univ. of Pennsylvania Perelman Sch. of Med., Univ. of Pennsylvania Perelman Sch. of Med.*

8:00 B18 **280.17** IGF2 dependent paracrine signaling inpericyte and neuronal crosstalk. Z. ZHAO*; X. W. XIE; J. ZENG; Y. WU; B. PLUIMER. *USC, USC, USC.*

9:00 B19 **280.18** *In-vivo* tracking and biological function of engineered mesenchymal stem cell-secreted artificial transcription factors. P. DENG*; D. CAMERON; J. J. WALDO; J. A. HALMAI; U. BEITNERE; J. NOLTA; D. J. SEGAL; K. FINK. *UC Davis, UC Davis Med. Ctr., UC Davis Med. Ctr.*

10:00 B20 **280.19** Neural crest loss caused by Pak1ip1 mutation can be rescued by Tp53 inhibition. A. A. PANOUTSOPOULOS*; A. LEE; A. DE CRESCENZO; E. HELMKE; R. MARCUCIO; P. TRAINOR; K. ZARBALIS. *UC Davis, IPRM - Shriners Children Hosp., Univ. of California, The Univ. of Kansas.*

11:00 B21 **280.20** Assessment of spine density and brain morphological phenotype in three rodent models of neurodevelopmental psychiatric disorders, poly(I:C): two-hit poly(I:C); and prenatal MAM rat model. D. RADL*; J. BIZOT; S. DAVID; J. COMBEAU; F. MASSE; Y. OBAYASHI; N. CHEN; P. O'DONNELL; R. PETROSKI; O. TOURY; B. BUISSON; R. HODGSON. *Takeda California, Key-Obs, Takeda Pharmaceuticals, Neuroservice.*

8:00 B22 **280.21** Longitudinal characterization of the *Cln8$^{mnd-/-}$ mouse model of CLN8 Batten Disease - Fine motor performance, brain pathology and metabolic changes.* K. LEHTIMÄKI; T. BRAGGE; J. T. PUOLIVÄLI*; J. RYTKÖNEN; P. POUTIAINEN; T. B. JOHNSON; J. T. CAIN; S. DAVIS; A. J. NURMI; J. WEIMER. *Charles River Discovery, Kuopio Univ. Hosp., Sanford Res.*

9:00 B23 **280.22** Mesenchymal stromal cell-derived exosomes mitigate neural progenitor cell impairment in bronchopulmonary dysplasia. M. A. LITHOPOULOS*; L. STRUEBY; S. ZHONG; A. VADIVEL; R. SLACK; J. WANG; D. C. LAGACE; B. THÉBAUD. *Ottawa Hosp. Res. Inst., Univ. of Ottawa, Univ. of Saskatchewan, Univ. of Ottawa Brain and Mind Res. Inst., Children's Hosp. of Eastern Ontario Res. Inst.*

10:00 B24 **280.23** 14-3-3gamma haploinsufficient mice display hyperactive and stress-sensitive behaviors. C. CHO*; D. KIM; K. SIM; O. KWON; E. HWANG; H. KIM; J. PARK. *Korea Univ., Sejong Univ., Ctr. for Functional Connectomics, Korea Inst. of Sci. and Technol.*

POSTER

281. Monoamine Transport and Signaling

Theme B – Neural Excitability/ Synapses/ and Glia

Mon. 8:00 AM – *McCormick Place, Hall A*

8:00 B25 **281.01** Phosphatidylinositol (4, 5)-biphosphate coordinates functional interactions in the dopamine transporter to promote amphetamine preference. J. I. AGUILAR*; S. J. MABRY; H. MATTHIES; A. GALLI. *Vanderbilt Univ., Univ. of Alabama at Birmingham.*

9:00 B26 **281.02** ▲ Subcellular localization of the dopamine transporter in nigrostriatal axons of the mouse medial forebrain bundle. K. BUCCHIN; J. BALCITA-PEDICINO; A. SORKIN; S. R. SESACK*. *Univ. of Pittsburgh, Univ. of Pittsburgh.*

10:00 B27 **281.03** Dopamine and adenosine signaling pathways are analyzed in striatal medium spiny neurons using kinase-associated neural phospho-signaling (KANPHOS) database. X. ZHANG*; T. NAGAI; K. KURODA; K. KAIBUCHI. *Nagoya Univ. Grad. Sch. of Med., Nagoya Univ. Grad. Sch. of Med.*

11:00 B28 **281.04** Striatal dopamine in time and space: Effects of methylphenidate. M. HSU; J. A. CHOUINARD; N. KITAMURA; K. LIYANAGAMA; L. TIAN; J. R. WICKENS*. *Okinawa Inst. of Sci. and Technol., Univ. of California at Davis.*

8:00 B29 **281.05** High time resolution analyses in online microdialysis experiments for dopamine and serotonin. H. BROUWER*; M. EYSBERG; L. VAN HEERWAARDEN; N. REINHOUD. *Antec Scientific, Antec Scientific (USA).*

9:00 B30 **281.06** Regulator of G protein signaling-12 modulates the expression and function of the serotonin transporter (SERT). A. N. WHITE*; J. D. GROSS; S. W. KASKI; K. R. TREXLER; R. M. RODRIGUIZ; A. B. SCHROER; K. A. WIX; W. C. WETSEL; S. G. KINSEY; D. P. SIDEROVSKI; V. SETOLA. *West Virginia Univ. Sch. of Med., West Virginia Univ. Sch. of Med., West Virginia Univ. Sch. of Med., West Virginia Univ., Duke Univ. Med. Ctr., West Virginia Univ., West Virginia Univ., West Virginia Univ.*

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* Indicates abstract's submitting author

10:00 B31 **281.07** A mechanism of serotonin transporter regulation by cholesterol biosynthetic intermediates. C. M. MITCHELL*; B. K. YAMAMOTO. *Indiana Univ. Sch. of Med., Indiana Univ. Sch. of Med.*

11:00 B32 **281.08** ▲ Humanizing and tagging the *Drosophila* serotonin transporter. R. C. M. ARNOLD*; N. DALILI; M. M. SAMPSON; S. L. BONANNO; A. EAMANI; K. MYERS GSCHWENG; D. E. KRANTZ. *UCLA, UCLA, UCLA, Univ. of California, Los Angeles, Univ. California Los Angeles.*

8:00 B33 **281.09** *Ex-vivo* dynamics of serotonergic fibers. M. T. HINGORANI*; A. M. VIVIANI; J. E. SANFILIPPO; S. N. SIU; J. C. CHIU; J. L. SELF; C. M. BATES; S. JANUSONIS. *Univ. of California Santa Barbara, Univ. of California Santa Barbara.*

9:00 B34 **281.10** Transcriptomically polarized subtypes of median raphe serotonergic neurons have divergent bouton neurochemical phenotypes targeting distinct brain regions. R. A. SENFT*; M. E. FRERET; S. M. DYMECKI. *Harvard Med. Sch.*

10:00 B35 **281.11** Molecular diversity of 5-HT neurons of the mouse dorsal raphe nucleus. B. W. OKATY*; N. STURROCK; O. V. ALEKSEYENKO; K. A. LYON; S. M. DYMECKI. *Harvard Med. Sch.*

11:00 B36 **281.12** Serotonin and histamine modulation in inflammation: Implications in depression. M. HERSEY*; S. N. BERGER; J. L. WOODRUFF; P. HASHEMI; L. P. REAGAN. *Univ. of South Carolina Sch. of Med., Univ. of South Carolina, Univ. of South Carolina Sch. of Med., Univ. of South Carolina Sch. of Med.*

8:00 B37 **281.13** Inhibition of presynaptic monoamine transporters by the HIV-1 viral protein Tat in the prefrontal cortex: Evidence from a transgenic mouse model. M. J. STRAUSS*; B. O'DONOVAN; P. I. ORTINSKI; J. P. MCLAUGHLIN; J. ZHU. *Univ. of South Carolina, Univ. of South Carolina, Univ. of South Carolina, Univ. of Florida, Col. of Pharmacy, Univ. of South Carolina.*

9:00 B38 **281.14** ▲ Examining monoamine oxidase inhibitor targets using *Caenorhabditis elegans.* M. J. VINCE; J. S. DUERR*. *Ohio Univ., Ohio Univ.*

10:00 B39 **281.15** Behavioral and molecular analysis of a monoamine oxidase zebrafish mutant. D. BARONIO*; Y. C. CHEN; P. A. PANULA. *Univ. of Helsinki.*

11:00 B40 **281.16** New insights into amphetamine-induced efflux by employment of genetically encoded biosensors in dopaminergic neurons. J. F. STØIER*; S. H. JØRGENSEN; M. A. C. GREGOREK; A. T. SØRENSEN; F. HERBORG; U. GETHER. *Univ. of Copenhagen, Univ. of Copenhagen.*

8:00 B41 **281.17** Rare genetic variants in monoamine transportes as a risk factor for neuropsychiatric disease? - Insights from a population based case-cohort sample. F. HERBORG*; V. APPADURAI; A. B. DEMUR; T. WERGE; U. GETHER. *Univ. of Copenhagen, Copenhagen Univ. Hosp., Fac. of Hlth. and Med. Sciences, Univ. Copen.*

9:00 B42 **281.18** Nanoscale distribution of the dopamine transporter assessed by super-resolution microscopy: Regulation by membrane potential. M. D. LYCAS*; J. F. STØIER; S. H. JØRGENSEN; A. T. SØRENSEN; M. SAUER; F. H. HANSEN; U. GETHER. *Univ. of Copenhagen, Univ. of Würzburg.*

10:00 B43 **281.19** Calcium spike-dependent modulation of locus coeruleus excitability. A. M. MCKINNEY*; X. JIANG. *Baylor Col. of Med.*

POSTER

282. Metabotropic Glutamate and GABAB Receptors

Theme B – Neural Excitability/ Synapses/ and Glia

Mon. 8:00 AM – *McCormick Place, Hall A*

8:00 B44 **282.01** ● Modulation of beta and gamma frequency oscillations in the rat anterior cingulate cortex (ACC) *in vitro* by group II metabotropic glutamate (mGlu) receptors (mGlu2/3). B. H. DENNIS; S. A. NEALE*; F. E. LEBEAU; T. E. SALT. *Newcastle Univ., Neurexpert Limited, Univ. Col. London.*

9:00 B45 **282.02** Operant self stimulation of thalamic terminals in the dorsomedial striatum is constrained by metabotropic glutamate receptor 2. K. A. JOHNSON*; L. VOYVODIC; Y. MATEO; D. M. LOVINGER. *Uniformed Services Univ., Natl. Inst. on Alcohol Abuse and Alcoholism, NIAAA, Natl. Inst. on Alcohol Abuse and Alcoholism Rockville Office.*

10:00 B46 **282.03** Identification of glutamatergic bidirectional synapses in the Portuguese man-of-war (*Physalia physalis, hydrozoa).* C. BOUCHARD*; B. BOSERUP; N. BILL; R. H. JIANG. *Univ. of South Florida, Nova Southeastern Univ., Univ. of South Florida.*

11:00 B47 **282.04** Nedd4 E3 ligase and beta-arrestins regulate ubiquitination, trafficking, and stability of the mGlu7 receptor. S. LEE*; S. PARK; H. LEE; S. HAN; J. SONG; Y. SUH. *Seoul Natl. Univ. Col. of Med.*

8:00 B48 **282.05** Neddylation of metabotropic glutamate receptor 7. M. KANG*; Y. SUH. *Seoul Natl. Univ. Col. of Med.*

9:00 B49 **282.06** Characterization of n linked glycosylation of metabotropic glutamate receptor 7. D. PARK*; Y. SUH. *Seoul Natl. Univ. Col. of Med., Seoul Natl. Univ. Col. of Med.*

10:00 B50 **282.07** Analgesic activity of N-acetylcysteine in the streptozotocin model of diabetic neuropathy. S. NOTARTOMASO*; G. MASCIO; P. SCARSELLI; F. LIBERATORE; E. MAZZON; A. GUGLIANDOLO; D. PIERAGOSTINO; G. CRUCCU; F. NICOLETTI; V. BRUNO; G. BATTAGLIA. *I.R.C.C.S. Neuromed, Univ. Sapienza, I.R.C.C.S. Ctr. Neurolesi "Bonino-Pulejo", Univ. G. D'Annunzio, Univ. Sapienza.*

11:00 B51 **282.08** Type-3 metabotropic glutamate receptors and Parkinson's disease: Preclinical studies and human genetics. L. DI MENNA; M. ALBORGHETTI; A. TRAFICANTE; J. A. MONN; M. SIMMACO; G. SPALLETTA; F. NICOLETTI; G. BATTAGLIA*; V. BRUNO; F. E. PONTIERI; M. BORRO. *I.R.C.C.S. Neuromed, Univ. Sapienza, I.R.C.C.S. Fondazione S. Lucia, Univ. Sapienza.*

8:00 B52 **282.09** Type-5 metabotropic glutamate receptors regulate the formation of perineuronal nets in the mouse cerebral cortex and cerebellum during postnatal development. G. MASCIO; S. NOTARTOMASO; P. SCARSELLI; D. BUCCI; M. CANNELLA; T. IMBRIGLIO; A. TRAFICANTE; G. BATTAGLIA; V. BRUNO; R. GRADINI*; F. NICOLETTI. *I.R.C.C.S. Neuromed, Univ. Sapienza, Univ. Sapienza.*

9:00 B53 **282.10** Activation of mGlu5 metabotropic glutamate receptors protects WaG/Rij rats against spontaneous absence seizures by enhancing GABA re-uptake and restraining tonic inhibition in the thalamus. R. CELLI; M. WALL; I. SANTOLINI; M. VERGASSOLA; L. DI MENNA; G. MASCIO; M. CANNELLA; G. VAN LUIJTELAAR; R. T. NGOMBA; A. PITTALUGA; V. BRUNO*; F. NICOLETTI. *I.R.C.C.S. Neuromed, Univ. of Warwick, Univ. of Genova, Radboud Univ., Univ. of Lincoln, Univ. Sapienza.*

- ● Indicated a real or perceived conflict of interest, see page 150 for details.
- ▲ Indicates a high school or undergraduate student presenter.
- * Indicates abstract's submitting author

10:00 B54 **282.11** Changes in interneuron related genes in the prefrontal cortex and hippocampus of mice lacking mGlu5 receptors during early postnatal development. T. IMBRIGLIO; R. VERHAEGHE; M. CANNELLA*; A. TRAFICANTE; G. MASCIO; S. MACCARI; G. BATTAGLIA; F. NICOLETTI. *Univ. Sapienza, Univ. of Lille, IRCCS Neuromed, Univ. Sapienza.*

11:00 B55 **282.12** TRPC3 channel is important for mGluR1-dependent Ca^{2+} and firing regulation in nigral dopamine neurons. K. U. UM*; M. PARK. *Sch. of Medicine. Sungkyunkwan Univ.*

8:00 B56 **282.13** Analgesic activity of cinnabarinic acid in models of inflammatory and neuropathic pain. F. FAZIO*; S. NOTARTOMASO; S. BOCCELLA; M. ULIVIERI; N. ANTENUCCI; F. LIBERATORE; P. SCARSELLI; V. BRUNO; G. BATTAGLIA; L. LUONGO; F. NICOLETTI; S. MAIONE. *I.R.C.C.S. Neuromed, Neuromed I.R.C.C.S., Univ. of Campania L. Vanvitelli, Univ. Sapienza.*

9:00 B57 **282.14** Regulation of $GABA_B$ receptor trafficking and localization by APP, AJAP1 and PIANP. P. REM*; S. FRÜH; M. CHOO; M. GASSMANN; B. BETTLER. *Univ. of Basel.*

10:00 B58 **282.15** Effect of angiotensin II type 1 receptor stimulation in the rostral ventrolateral medulla of normotensive rats: Interaction with glutamate and gamma-aminobutyric acid. L. LEGAT*; A. G. DUPONT; I. SMOLDERS. *VRIJE Univ. Brussel.*

POSTER

283. Potassium Channels II

Theme B – Neural Excitability/ Synapses/ and Glia

Mon. 8:00 AM – *McCormick Place, Hall A*

8:00 B59 **283.01** Beyond retigabine: Pharmacological characterization of novel neuronal Kv7 channel activators. F. MICELI*; P. NAPPI; L. CAROTENUTO; C. OSTACOLO; P. CAMPIGLIA; M. TAGLIALATELA. *Univ. of Naples “Federico II”, Univ. of Naples “Federico II”, Univ. of Salerno.*

9:00 B60 **283.02** A novel role for Kv7/KCNQ potassium channels in synaptic strength. G. C. TRACY*; H. CHUNG. *Univ. of Illinois at Urbana-Champaign, Univ. of Illinois at Urbana-Champaign.*

10:00 B61 **283.03** Impaired M-current in KCNQ2 epileptic encephalopathy evokes dyshomeostatic modulation of excitability in patient-derived neurons. D. SIMKIN*; T. J. SEARL; B. PIYEVSKY; K. A. MARSHALL; M. FORREST; M. SCHWAKE; G. L. ROBERTSON; P. PENZES; J. J. MILLICHAP; A. L. GEORGE, Jr; E. KISKINIS. *Northwestern University, Feinberg Sch. of Med., Northwestern University, Feinberg Sch. of Med., Northwestern University, Feinberg Sch. of Med., Ann & Robert H. Lurie Children’s Hosp. of Chicago, Feinberg Sch. of Medicine, Northwestern Univ.*

11:00 B62 **283.04** Kir4.1 channels in NG2-glia play a role in potassium signaling and ischemia-related myelin loss. X. TONG*; F. SONG; X. HONG; J. CAO; J. WAN. *Shanghai Jiao Tong Univ. Sch. of Med.*

8:00 B63 **283.05** Exon2-deleted TWIK-1 KO mice are not an appropriate model for TWIK-1 defeciency. H. JUNG; A. KIM; Y. BAE; J. PARK; E. HWANG*. *Korea Inst. of Sci. and Technol., Korea Univ.*

9:00 B64 **283.06** A 5’ UTR GGN repeat sequence forms a stable G-quadruplex that controls translation initiation and neurite targeting of the potassium leak channel Task3 mRNA. C. J. MALTBY*; J. P. R. SCHOFIELD; I. M. O’KELLY; K. DEINHARDT; M. J. COLDWELL. *Univ. of Southampton, Univ. of Southampton.*

10:00 B65 **283.07** Structural molecular sites for local anesthetic modulation of TASK channels. G. DU*; Y. HOU; Y. HUANG. *West China Hosp. of Sichuan Univ., Affiliated Hosp. of Guizhou Med. Univ.*

11:00 B66 **283.08** Progressive myoclonic epilepsy-associated gene Kctd7 regulates retinal neurovascular patterning. J. ALEVY*; C. A. BURGER; N. E. ALBRECHT; D. JIANG; M. A. SAMUEL. *Baylor Col. of Med.*

8:00 B67 **283.09** Kv3.1 and Kv3.3 differentially contribute to action potential repolarization in principal neurons of the auditory brainstem. N. CHOUDHURY*; A. RICHARDSON; D. M. LINLEY; S. ROBINSON; M. ANDERSON; V. MARRA; C. KOPP-SCHEINPFLUG; J. R. STEINERT; I. D. FORSYTHE. *Univ. of Leicester, Univ. of Leeds, MRC Toxicology Unit, LMU Munich.*

9:00 B68 **283.10** Characterizing electrophysiological properties of the nodes of Ranvier at motor never fibers using the *in situ* pressure-patch-clamp recording technique. S. TONOMURA*; K. HIROSATO; J. LING; J. G. GU. *Univ. of Alabama at Birmingham.*

10:00 B69 **283.11** K2P channels are molecular machineries at nodes of Ranvier for saltatory conduction. H. KANDA*; S. TONOMURA; J. LING; K. NOGUCHI; S. MATALON; Y. DAI; J. G. GU. *Hyogo Univ. of Hlth. Siences, Hyogo Col. of Med., Univ. of Alabama at Birmingham.*

11:00 B70 **283.12** Distinguishing subunit-specific roles of Kv3 channels in action potential repolarization. K. BONDARENKO*; J. P. SMALLEY; M. S. ANDERSON; P. M. CULLIS; I. D. FORSYTHE. *Univ. of Leicester, Univ. of Leicester.*

8:00 B71 **283.13** Regulation of presynaptic Ca^{2+} microdomains and synaptic transmission by K^+ channel variants. I. CHO*; S. ALPIZAR; M. CHIN; L. PANZERA; M. B. HOPPA. *Dartmouth Col., Dartmouth Col., Dartmouth Col.*

9:00 B72 **283.14** Regulation of neuronal ion channel activity by Polycomb and Trithorax group proteins in unexpected manners. S. DAVE*; T. LENG; Z. XIONG; A. ZHOU. *Morehouse Sch. of Med.*

POSTER

284. Synaptic Transmission: Modulation and Mechanisms I

Theme B – Neural Excitability/ Synapses/ and Glia

Mon. 8:00 AM – *McCormick Place, Hall A*

8:00 B73 **284.01** Mechanism of action of clinically relevant concentrations of 3,4-diaminopyridine at the neuromuscular junction. K. S. OJALA*; S. P. GINEBAUGH; M. WU; B. VUOCOLO; E. W. MILLER; S. D. MERINEY. *Univ. of Pittsburgh, Univ. of California, Berkeley.*

9:00 B74 **284.02** 3,4-diaminopyridine enhances muscle contraction strength by increasing asynchronous synaptic vesicle fusion to generate multiple muscle action potentials. J. B. MACHAMER*; K. T. PAGARIGAN; P. M. MCNUTT. *US Army Med. Res. Inst. of Chem. Def.*

- • Indicated a real or perceived conflict of interest, see page 150 for details.
- ▲ Indicates a high school or undergraduate student presenter.
- * Indicates abstract’s submitting author

10:00 B75 **284.03** ▲ The role of peptidoglycans receptors in the response to bacterial endotoxin LPS on synaptic transmission: NMJ and CNS. C. R. BALLINGER BOONE*; D. HARRISON; R. L. COOPER. *Univ. of Kentucky, Univ. of Kentucky Dept. of Biol.*

11:00 B76 **284.04** Investigating the role of a synaptically targeted intronic lncRNA in memory. E. GRINMAN*; I. ESPADAS; Y. AVCHALUMOV; S. SWARNKAR; S. V. PUTHANVEETTIL. *The Scripps Res. Inst.*

8:00 B77 **284.05** Synaptic microRNAs and their role in major depressive disorder pathogenesis. Y. YOSHINO*; Y. DWIVEDI. *Psychiatry and Behavioral Neurobio., Univ. of Alabama At Birmingham.*

9:00 B78 **284.06** A new mechanism of synaptic activity regulation through DNA methylation. D. PENSOLD*; C. BAYER; K. VAN LOO; N. CIGANOK; A. HAHN; J. REICHARD; L. LIEBMANN; J. GROß; T. LINGNER; G. SALINAS-RIESTER; C. HALFMANN; T. PIELER; C. HUEBNER; H. VATTER; B. KAMPA; A. BECKER; G. ZIMMER-BENSCH. *RWTH Aachen Univ., Univ. of Bonn Med. Ctr., RWTH Aachen Univ., Univ. Clin. Jena, Univ. of Goettingen, Univ. of Goettingen, Univ. of Bonn Med. Ctr.*

10:00 B79 **284.07** Cell type-specific action of the alternative splicing factor SLM2 for specifying synaptic properties. L. TRAUNMÜLLER*; E. FURLANIS; G. FUCILE; P. SCHEIFFELE. *Univ. of Basel.*

11:00 B80 **284.08** Adhesion GPCR Latrophilin-1 simultaneous coupling to both $G\alpha_s$ and $G\alpha_{i/o}$ proteins pathways is dictated by an intracellular alternatively splice insert. J. C. OVANDO-ZAMBRANO*; J. A. ARIAS-MONTAÑO; A. A. BOUCARD. *Ctr. de Investigación y de Estudios Avanzados del Inst. Politécnico Nacional (CINVESTAV-IPN), Ctr. de Investigación y de Estudios Avanzados del Inst. Politécnico Nacional (CINVESTAV-IPN).*

8:00 B81 **284.09** Rapid actions of anti-Müllerian hormone in regulating synaptic transmission and long-term synaptic plasticity in the hippocampus. K. WANG; F. XU; M. S. LAWSON; J. G. MAYLIE*; J. XU. *Oregon Hlth. & Sci. Univ., Oregon Hlth. & Sci. Univ.*

9:00 B82 **284.10** ● Signaling by microglia-enriched cytokine tweak through the neuronal receptor Fn14 modulates synaptic neurotransmission and plasticity. D. NAGY*; K. ENNIS; S. SU; R. GU; R. WEI; C. HINCKLEY; K. LI; B. GAO; M. HAJOS; L. C. BURKLY. *Biogen, Biogen, Biogen.*

10:00 B83 **284.11** Inhibition of GluR current in microvilli of sensory neurons via Na^+-microdomain coupling among GluR, HCN channel and Na^+/K^+ pump. Y. KANG*; M. SAITO; Y. BAE; S. OH. *Osaka Univ. Grad. Sch. Human Sci., Kagoshima Univ. Grad. Sch. of Med. and Dent. Scis., Sch. of Dentistry, Kyungpook Natl. Univ., Sch. of Dent, Seoul Nat'l Univ.*

11:00 B84 **284.12** Cell type specific zinc modulation of excitatory synaptic transmission in mouse hippocampus. J. N. TANG*; G. SOLER-LLAVINA. *Novartis Inst. for Biomed. Res.*

8:00 B85 **284.13** Heterosynaptic $GABA_B$ receptor function gates glutamatergic transmission in the nucleus accumbens. K. M. MANZ*. *Vanderbilt Univ. Sch. of Med.*

9:00 B86 **284.14** Alterations of CB1-mediated excitatory neurotransmission following chronic mild stress during adolescence at the CA1 dendritic layer. A. R. FERRARO*; P. A. WIG; S. M. O'SULLIVAN; N. M. AMADA; J. R. LOPEZ; B. HANER; Z. MALL; A. KEMP; C. G. REICH. *Ramapo Col. of New Jersey, Ramapo Col. of New Jersey.*

10:00 B87 **284.15** ▲ Cholinergic gain control of the claustrum. A. NAIR*; M. GRAF; G. J. AUGUSTINE. *Nanyang Technological Univ., Agency of Science, Technol. and Res.*

11:00 B88 **284.16** Adenosine protects neurosynaptic transmission against experimental ischemia, hypoxia, or hypoglycemia in the mouse hippocampus. M. KAWAMURA, Jr; D. N. RUSKIN*; S. A. MASINO. *Jikei Univ. Sch. Med., Trinity Col.*

8:00 B89 **284.17** Reactive oxygen species signaling modulates glutamate receptor transport. R. L. DOSER*; G. AMBERG; F. J. HOERNDLI. *Colorado State Univ., Colorado State Univ., Colorado State Univ.*

9:00 B90 **284.18** Cerebellar modulation of mesolimbic dopamine transmission is functionally asymmetrical. Z. R. HOLLOWAY; N. B. PAIGE; J. F. COMSTOCK; H. G. NOLEN; H. J. SABLE; D. B. LESTER*. *Univ. of Memphis.*

8:00 DP02/B91 **284.19** (Dynamic Poster) The phosphorylation status of the Kv3.4 channel N-terminal inactivation domain regulates nociceptive signaling in the DRG and superficial dorsal horn. M. COVARRUBIAS*; L. ZHI; T. MUQEEM; T. ALEXANDER. *Sidney Kimmel Med. Col. of Thomas Jefferson Univ.*

11:00 B92 **284.20** Patterning interfaces at the nanoscale promotes axonal regeneration in lesion hippocampal organ cultures. I. CALARESU*; I. RAGO; L. BALLERINI; D. SCAINI. *Intl. Sch. For Advanced Studies (SISSA), Elettra, SISSA-ISAS, Intl. Sch. For Advanced Studies.*

8:00 B93 **284.21** Functional modulation of PV interneuron by sleep/wake cycle. F. ZONG; Z. CHEN; X. ZHANG; X. MIN; H. YAO; K. HE*. *IRCBC,Chinese Acad. of Sci., ION,Chinese Acad. of Sci.*

POSTER

285. Long-Term Depression and Spike Timing-Dependent Plasticity

Theme B – Neural Excitability/ Synapses/ and Glia

Mon. 8:00 AM – *McCormick Place, Hall A*

8:00 B94 **285.01** SIVA 1 modulates XIAP interaction with the death receptor antagonist FAIM-L to regulate apoptosis and synaptic function. E. COCCIA; L. PLANELLS-FERRER; R. BADILLOS-RODRIGUEZ; M. PASCUAL; M. F. SEGURA; R. FERNANDEZ-HERNANDEZ; J. LOPEZ-SORIANO; E. GARI; E. SORIANO; B. BARNEDA-ZAHONERO; R. S. MOUBARAK; M. J. PEREZ-GARCIA; J. X. COMELLA*. *VHIR- Vall D'Hebron Inst. of Res., VHIR - Vall D'Hebron Inst. of Res., Univ. de Barcelona, IRBlleida.*

9:00 B95 **285.02** Effects of β-adrenergic receptor on long-term depression at parallel fiber to purkinje neuron synapses in the cerebellar flocculus. T. INOSHITA*; T. HIRANO. *Kyoto University, Grad. Sch. of Sci.*

10:00 B96 **285.03** Age dependent metabotropic glutamate receptor mediated long term depression. A. J. IDOWU*; M. SEGAL; A. KIRKWOOD. *Lagos State Univ. Col. of Med., The Weizmann Inst., Johns Hopkins Univ.*

11:00 B97 **285.04** Serotonin facilitates plasticity and associativity in hippocampal area CA2. A. BENOY*; N. ATHER; S. SAJIKUMAR. *Natl. Univ. of Singapore.*

- ● Indicated a real or perceived conflict of interest, see page 150 for details.
- ▲ Indicates a high school or undergraduate student presenter.
- * Indicates abstract's submitting author

8:00 B98 **285.05** Altered perineuronal nets and synaptic plasticity in the hippocampus in neurofibromin deficiency in mice. A. KAMALI TAFRESHI*; S. ABDELMAGED; K. PRASAD; A. POLAVARAPU; N. LOZANO; C. KOCH; P. ALGEDIK; O. BOZDAGI. *Rutgers Univ., Rutgers Univ.*

9:00 B99 **285.06** Characterizing long-term synaptic depression at the entorhinal to hippocampal CA1 synapse. K. M. KEARY*, III; Z. LI. *Brown Univ. NIH GPP, NIMH.*

10:00 B100 **285.07** Targeted disruption of NMDAr-dependent synaptic plasticity by intermittent hypoxia. A. ARIAS-CAVIERES*; C. NWAKUDU; A. J. GARCIA, III. *Univ. of Chicago, The Univ. of Chicago.*

11:00 B101 **285.08** Impact on brain-derived neurotrophic factor on synaptic transmission and plasticity in the oval nucleus of bed nucleus of the stria terminalis. D. FIEDLER*; M. SASI; R. BLUM; C. KLINKE; M. ANDREATTA; H. PAPE; M. D. LANGE. *Westfälische Wilhelms-University, Univ. Hosp. Wuerzburg, Julius-Maximilians-University.*

8:00 B102 **285.09** Inositol triphosphate receptors are required for DHPG induced LTD, but not low frequency stimulation induced LTD, in visual cortex. D. KALIKULOV; Q. S. FISCHER*; M. J. FRIEDLANDER. *Fralin Biomed. Res. Inst. At VTC.*

9:00 C1 **285.10** Spike-timing-dependent plasticity alters sensory network connectivity *in vivo.* A. J. LUBE*; X. MA; B. A. CARLSON. *Washington Univ. In St. Louis.*

10:00 C2 **285.11** The influence of LTP induction on back-propagated action potentials on dendrites: Analysis using optical imaging with voltage sensitive dye. S. SUGIMOTO*; M. KAWAI; M. KONDO; Y. R. TANAKA; T. AIHARA. *Tamagawa Univ., The Univ. of Tokyo.*

11:00 C3 **285.12** Adenosine receptor mediated developmental loss of spike timing dependent depression in the hippocampus. A. RODRIGUEZ-MORENO*; M. PÉREZ-RODRÍGUEZ; L. E. ARROYO-GARCÍA; J. PRIUS-MENGUAL; Y. ANDRADE-TALAVERA; J. A. ARMENGOL; E. PÉREZ-VILLEGAS; G. FLORES. *Univ. Pablo de Olavide, Univ. Autonoma de Puebla / Inst. de Fisiologia.*

8:00 C4 **285.13** A key role for metabotropic presynaptic NMDA receptor signaling in neocortical STDP. A. THOMAZEAU*; J. BROCK; P. SJÖSTRÖM. *Brain Repair and Integrative Neurosci. Program, Ctr. for Res. in Neuroscience, Departments of Medicine, and Neurol. & Neurosurgery, The Res. Inst. of the McGill Univ. Hlth. Centre, Montreal Gen. Hosp., McGill Univ.*

9:00 C5 **285.14** Input-specific excitatory and inhibitory stdp of layer 2/3 pyramidal neurons of mouse auditory cortex. S. C. SONG*; R. C. FROEMKE. *New York Univ. Langone Med. Ctr.*

10:00 C6 **285.15** *In vivo* verification of Hebb cell assembly hypothesis for perceptual memory. X. YAN*; D. ZHANG; M. POO. *Inst. of Neurosci., Inst. of Neuroscience, CAS, Inst. of Neuroscience, SIBS, CAS.*

11:00 C7 **285.16** Optogenetic spike-timing-dependent plasticity over behaviorally relevant time scales. M. ANISIMOVA*; B. VAN BOMMEL; T. G. OERTNER; C. E. GEE. *Univ. Med. Ctr. Hamburg-Eppendorf (UKE).*

8:00 C8 **285.17** Chronic unpredictable mild stress mediates neuroplasticity of medium spiny neurons through the GSK3β pathway. G. ACETO; C. COLUSSI; L. LEONE; S. FUSCO; M. RINAUDO; F. SCALA; F. LAEZZA; C. GRASSI; M. D'ASCENZO*. *Univ. Cattolica S. Cuore, Sch. of Med., Natl. Res. Council, Fondazione Policlinico Universitario A. Gemelli IRCCS, Baylor Col. of Med., Univ. of Texas Med. Br. at Galveston.*

9:00 C9 **285.18** A modeling study of the cellular and circuit-level mechanisms of emotional memory consolidation in the prefrontal-amygdala network during REM sleep. Y. RHO*; S. VIJAYAN. *Virginia Tech.*

10:00 C10 **285.19** Vagus nerve stimulation and induced cortical plasticity in non-human primates. I. R. REMBADO*; D. SU; L. SHUPE; H. BOYD; B. AMOENI; I. KEMP; A. MORSE; C. BIRCH; S. I. PERLMUTTER; E. E. FETZ; S. ZANOS. *Univ. of Washington, Univ. of Washington, Univ. of Washington, Feinstein Inst. For Med. Res.*

POSTER

286. Synaptic Plasticity: Kinases and Intracellular Signaling

Theme B – Neural Excitability/ Synapses/ and Glia

Mon. 8:00 AM – *McCormick Place, Hall A*

8:00 C11 **286.01** ERK phosphorylation is uncoupled from ERK activation in a cellular model of long-term plasticity. N. KUKUSHKIN*; T. J. CAREW. *New York Univ.*

9:00 C12 **286.02** Proteolytic processing of TGFβ provides a mechanism for precise temporal orchestration in long term memory formation. P. MIRANDA*; N. KUKUSHKIN; A. A. MIRISIS; M. SCHREIBMAN; T. J. CAREW. *New York Univ., New York Univ.*

10:00 C13 **286.03** Nuclear export of the RNA-binding protein ELAV provides a candidate mechanism for mRNA localization during long-term memory formation. A. A. MIRISIS*; T. J. CAREW. *New York Univ.*

11:00 C14 **286.04** ● NYX-458, a novel NMDA receptor modulator, improves age-related, hippocampal-dependent learning impairment and reverses changes in plasticity, spine morphology, and protein expression in rat hippocampus. T. S. MATHARU*; G. D. MORRISON; A. L. BARTH; C. J. KELLY; J. DUNNING; P. KANSARA; N. PUNCHARD; A. A. MOGHADAM; P. K. STANTON; J. R. MOSKAL; C. N. CEARLEY. *Aptinyx, New York Med. Col., Northwestern Univ.*

8:00 C15 **286.05** The impact of PKA-dependent phosphorylation of GluN2B at Ser1166 on hippocampal plasticity and cognition. M. W. PORCH*; J. HWANG; A. E. CHAVEZ; R. ZUKIN. *Albert Einstein Col. of Med., Creighton, Univ. De Valparaiso, Albert Einstein Col. Med.*

8:00 DP03/C16 **286.06** (Dynamic Poster) Imaging compartmentalized and isozyme-specific PKC activity during plasticity. L. A. COLGAN*; H. L. HOLMAN; P. PARRA-BUENO; X. TU; J. MISLER; R. YASUDA. *Max Planck Florida Inst., Max Plank Florida Inst. For Neurosci.*

10:00 C17 **286.07** Dynamic analysis of CaMKII activity switch in living cells using FRET/FLIM sensors. C. ZHANG; N. OTMAKHOV*; R. KEPHARD; L. GRIFFITH. *Brandeis Univ.*

● Indicated a real or perceived conflict of interest, see page 150 for details.
▲ Indicates a high school or undergraduate student presenter.
* Indicates abstract's submitting author

11:00 C18 **286.08** Endogenous role for Rem2 inhibition of CaMKII in neuronal synaptic development and plasticity. R. ANJUM*; L. ROYER; J. J. HERZOG; K. M. KENNY; B. TZVETKOVA; J. C. COCHRANE; M. T. MARR, II; S. PARADIS. *Brandeis Univ., Massachusets Gen. Hosp. and Harvard Med. Sch.*

8:00 C19 **286.09** Interactions between CaM and Ng govern the dynamics of CaMKII as a leaky integrator. M. ORDYAN*; T. M. BARTOL, JR; M. B. KENNEDY; P. RANGAMANI; T. J. SEJNOWSKI. *Salk Inst., UCSD, Salk Inst., Caltech, UCSD.*

9:00 C20 **286.10** Deciphering IGF1 and insulin signaling within a single dendritic spine in long term potential. X. TU*; R. YASUDA. *Max Plank Florida Inst. For Neurosci.*

10:00 C21 **286.11** Biochemically detailed single compartment model for neocortical postsynaptic long term plasticity. T. MÄKI-MARTTUNEN*; A. G. EDWARDS; G. T. EINEVOLL; K. L. BLACKWELL. *Simula Res. Lab., Norwegian Univ. Life Sci., George Mason Univ.*

11:00 C22 **286.12** Camkiig drives long term potentiation of parvalbumin positive interneurons, boosting network oscillations and memory. X. HE*; G. ZHOU; J. LI; J. YANG; H. MA. *Zhejiang Univ. Sch. of Medicine, Hangzhou.*

8:00 C23 **286.13** Cannabinoid regulation of excitatory synaptic transmission at hippocampal TA-CA1 synapses. A. FARAH*; A. J. IRVING; J. HARVEY. *Univ. of Dundee, Univ. Col. Dublin.*

9:00 C24 **286.14** AMPA receptor endocytosis enhanced by transient acidification in retrieval-induced lability of an aversive memory. J. DU*; B. LIN; F. S. NAGHAVI; E. E. KOFFMAN; C. M. KRUSE; K. SINGH. *The Univ. of Toledo.*

10:00 C25 **286.15** Assessing molecular mechanisms underlying NMDAR plasticity at hippocampal synapses. S. LUTZU*; K. ALVINA; P. E. CASTILLO. *Albert Einstein Col. of Med., Texas Tech. Univ., Albert Einstein Coll Med.*

11:00 C26 **286.16** ▲ The impact of rare human genetic variants of RGS14 on its binding to active $G_{\alpha i1}$ and Rap2A. G. TERZIOGLU*; C. MONTANEZ-MIRANDA; K. L. FOWLER; S. RAMINENI; J. R. HEPLER. *Emory Univ., Emory Univ. Laney Grad. Sch., Emory Univ. Laney Grad. Sch., Emory Univ. Sch. of Med.*

8:00 C27 **286.17** Arc protein synthesis is promoted by secreted amyloid precursor protein-alpha in primary hippocampal neurons. R. LIVINGSTONE*; M. K. ELDER; M. BARRETT; C. WESTLATE; K. PEPPERCORN; W. TATE; W. C. ABRAHAM; J. M. WILLIAMS. *Univ. of Otago, New York Univ., Univ. of Otago, Univ. of Otago.*

9:00 C28 **286.18** Weak high-frequency synaptic stimulation induces persistent long-term potentiation in rat hippocampal slices if preceded or followed by a brief application of 4% sevoflurane. P. TSOKAS*; C. HSIEH; I. S. KASS; J. E. COTTRELL; T. C. SACKTOR. *SUNY Downstate Med. Ctr. Col. of Med., SUNY Downstate Med. Ctr., SUNY Downstate, SUNY Downstate, SUNY Downstate.*

10:00 C29 **286.19** Simulations suggest combined-drug treatments that enhance synaptic plasticity and potentially improve learning and memory. P. D. SMOLEN*; D. A. BAXTER; J. H. BYRNE. *McGovern Med. Sch. of UTHSC At Houston, Texas A&M Hlth. Sci. Ctr. – Houston.*

11:00 C30 **286.20** Calcium dependent remodeling of PSD-95 by competitive binding for PDZ domains. P. GIOLANDO*; B. DAVIS. *Purdue Univ.*

8:00 C31 **286.21** ● Aav shrna mediated pten knockdown in adult neurons leads to persistent activation of mtor, *de novo* neuron growth, and attenuation of activity dependent kinase activation and immediate early gene induction. O. STEWARD*; K. M. YEE. *Univ. of California, Irvine, Univ. of California Irvine.*

9:00 C32 **286.22** LTP at mossy cell-granule cell synapse requires adenosine/A_{2a} receptor retrograde signaling. K. NASRALLAH*; Y. HASHIMOTODANI; M. GULFO; R. LUJAN; P. E. CASTILLO. *Albert Einstein Col. of Med., Albert Einstein Col. of Medecine, Albert Einstein Col. of Med., Univ. of Castilla-La Mancha, Albert Einstein Coll Med.*

POSTER

287. Synaptic Plasticity: Pre- and Postsynaptic Mechanisms

Theme B – Neural Excitability/ Synapses/ and Glia

Mon. 8:00 AM – *McCormick Place, Hall A*

8:00 C33 **287.01** Phosphoinositide responsive Phldb2 is crucial for LTP regulating synaptic NMDA and AMPA receptor density and PSD95 turnover. M. XIE*; Y. ISHIKAWA; H. YAGI; Y. FUKAZAWA; M. SATO. *Univ. of Fukui, Univ. of Fukui, Osaka University, Kanazawa University-Hamamatsu Univ. Sch. of Medicine, Chiba Univ. and Univ. of Fukui, Maebashi Inst. of Technol., Hyogo Col. of Med., Univ. of Fukui, Osaka Univ. Grad. Sch. of Med.*

9:00 C34 **287.02** Transcranial direct current stimulation induces hippocampal metaplasticity mediated by BDNF-dependent TrkB activation. T. YU*; Y. WU; M. CHIEN; K. HSU. *Natioanal Cheng Kung Univ., Natl. Cheng Kung Univ. Hosp., Natl. Cheng Kung Univ., Natl. Cheng Kung Univ. Hosp., Natl. Cheng Kung Univ.*

10:00 C35 **287.03** Synaptotagmin11 is essential for long term synaptic plasticity and spatial memory. M. SHIMOJO*; J. C. MADARA; S. PANKOW; J. R. YATES, III; M. HIGUCHI; T. C. SUDHOF; A. MAXIMOV. *Natl. Inst. for Quantum and Radiological Sci. and Technol., The Scripps Res. Inst., BIDMC/Harvard Med. Sch., The Scripps Res. Inst., Stanford Univ., UT Southwestern Med. Ctr. at Dallas.*

11:00 C36 **287.04** Cholinergic modulation of the corticostriatal synaptic plasticity in sub-group of stratal projection neurons. A. TAMURA*; J. A. CHOUINARD; K. KURIMA; Y. AKAMINE; J. R. WICKENS. *Okinawa Inst. of Sci. and Technol.*

8:00 C37 **287.05** A short episode of high intensity sound decreases BDNF levels in the hippocampus, which impairs LTP. J. L. DE DEUS; M. R. AMORIN; A. O. CUNHA; L. G. S. BRANCO; R. M. LEAO*. *Univ. of Sao Paulo, Univ. of Sao Paulo, Univ. of Sao Paulo.*

9:00 C38 **287.06** Modulation of synaptic plasticity in hippocampal CA1 region by basolateral amygdala. Y. CHONG*; C. GOH; S. SREEDHARAN. *Natl. Univ. of Singapore.*

10:00 C39 **287.07** Long-term potentiation can be trans-synaptically evoked in the hippocampal formation. M. T. ROMERO-BARRAGAN*; J. M. DELGADO-GARCIA; A. GRUART. *Div. of Neurosciences, Pablo De Olavide Univ.*

11:00 C40 **287.08** Effects of social isolation rearing and ketamine on hippocampal synaptic plasticity. J. B. LOGUE*; K. J. SCHOEPFER; Y. ZHOU; M. KABBAJ. *Florida State Univ., Florida State Univ.*

• Indicated a real or perceived conflict of interest, see page 150 for details.
▲ Indicates a high school or undergraduate student presenter.
* Indicates abstract's submitting author

8:00 C41 **287.09** Hippocampal long-term potentiation is modulated by exercise-induced alterations in dopaminergic neurotransmission in mice selectively bred for high voluntary wheel running. K. D. PARFITT*; J. M. PHAN; J. YI; J. H. A. FOOTE; S. K. OLSON; T. GARLAND, Jr. *Pomona Col., Pomona Col., Washington Univ., Pomona Col., Univ. of California Riverside.*

9:00 C42 **287.10** Computational analysis of cholinergic mechanisms for disinhibition of CA1 pyramidal cells and induction of hippocampal plasticity. I. GUERREIRO*; Z. GU; J. L. YAKEL; B. GUTKIN. *Ecole Normale Superieure, Natl. Inst. of Envrn. Hlth. Sci.*

10:00 C43 **287.11** Presynaptic LTP at mossy cell-dentate granule cell synaptic transmission requires pre- and postsynaptic BDNF and it can be induced by experience. C. BERTHOUX*; K. NASRALLAH; P. E. CASTILLO. *Albert Einstein Col. of Med., Albert Einstein Col. of Med., Albert Einstein Col. of Med.*

11:00 C44 **287.12** Regulation of synaptic plasticity by BDNF-endocannabinoid interactions. F. LEMTIRI-CHLIEH; T. M. ROBINSON; E. S. LEVINE*. *Univ. of Connecticut Sch. of Med.*

8:00 C45 **287.13** Retinoic acid modulates the ability of cultured dentate granule cells to express synaptic plasticity through intracellular calcium stores. M. LENZ*; A. STREHL; A. EICHLER; J. MÜLLERLEILE; P. JEDLICKA; T. DELLER; A. VLACHOS. *Inst. of Anat. and Cell Biology, Fac. of Medicine, Univ. of Freiburg, Goethe-University Frankfurt, Ctr. for Basics in Neuromodulation, Fac. of Medicine, Univ. of Freiburg.*

9:00 C46 **287.14** ▲ Lipopolysaccharide (LPS) induced neural inflammation is associated with alterations in synaptic plasticity probed by 10 Hz repetitive magnetic stimulation. A. EICHLER*; M. LENZ; C. GALANIS; D. KLEIDONAS; N. MAGGIO; A. VLACHOS. *Inst. of Anat. and Cell Biology, Fac. of Medicine, Univ. of Freiburg, MOTI-VATE Grad. School, Fac. of Medicine, Univ. of Freiburg, Spemann Grad. Sch. of Biol. and Medicine, Univ. of Freiburg, Fac. of Biology, Univ. of Freiburg, Sagol Sch. of Neurosciences, Talpiot Med. Leadership Program, the Chaim Sheba Med. Ctr., Sackler Fac. of Med. and Sagol Ctr. for Neurosciences, Tel Aviv Univ., Ctr. for Basics in Neuromodulation, Fac. of Med.*

10:00 C47 **287.15** Distinct role of mGluR1α and mGluR5 in synaptic plasticity of somatostatin positive interneurons in dentate gyrus. G. GRIGORYAN*; M. BARTOS. *Inst. of Physiol. I, Univ. of Freiburg.*

11:00 C48 **287.16** Presynaptic increase in IP3 receptor type 1 concentration in the early phase of hippocampal synaptic plasticity. H. RINGSEVJEN*; H. UMBACH HANSEN; S. HUSSAIN; V. JENSEN; S. WALAAS; S. DAVANGER. *Univ. of Oslo, Univ. of Oslo, Univ. of Oslo.*

8:00 C49 **287.17** Acetylcholine mediated modulation of long-term plasticity at Schaffer-collaterals. R. SHARMA; S. NADKARNI*. *Indian Inst. of Sci. Educ. and Res. Pune.*

9:00 C50 **287.18** 17β-estradiol enhances long-term potentiation in the rat primary auditory cortex *in vivo.* C. N. SOUTAR*; P. GRENIER; M. C. OLMSTEAD; C. D. BAILEY; H. C. DRINGENBERG. *Queen's Univ., Queen's Univ., Univ. of Guelph.*

10:00 C51 **287.19** The distribution of synaptic strengths and mechanism for synaptic plasticity in the model of inter-spine molecular transport of PSD-95 molecules. D. TSIGANKOV*. *Harvard Med. Sch., Max-Planck Inst. for Dynamics and Self-Organization.*

11:00 C52 **287.20** Etomidate suppression of LTP does not depend on modulation of α5-$GABA_A$ receptors on Sst or OLM interneurons. A. R. FRELKA*; A. G. FIGUEROA; G. SURGES; M. PERKINS; K. KULLANDER; R. A. PEARCE. *Univ. of Wisconsin, Uppsala Univ.*

8:00 C53 **287.21** Alternative splicing of synaptic adhesion molecules in human somatosensory neurons. J. J. YOO*; R. W. GEREAU; B. A. COPITS. *Washington Univ. Sch. of Med.*

9:00 C54 **287.22** ● Differentiation and characterization of hiPSC-cortical neurons and their application to drug evaluation in CNS disease models. K. AUTAR*; X. GUO; N. AKANDA; A. GOSWAMI; M. JACKSON; J. RUMSEY; C. LONG; J. J. HICKMAN. *Univ. of Central Florida, Hesperos, Inc., Univ. Central Florida.*

POSTER

288. Human Functional Imaging

Theme B – Neural Excitability/ Synapses/ and Glia

Mon. 8:00 AM – *McCormick Place, Hall A*

8:00 C55 **288.01** Changes in electroencephalogram phase dynamics induced by transcranial magnetic stimulation. Y. SASAOKA; Y. IWAI; D. FUTAGI; K. KITAJO; K. KITANO*. *Ritsumeikan Univ., Ritsumeikan Univ., Natl. Inst. for Physiological Sci.*

9:00 C56 **288.02** The interbrain EEG synchronization during a joint action reflects the sense of joint agency. M. SHIRAISHI*; S. SHIMADA. *Meiji Univ.*

10:00 C57 **288.03** Low-frequency alpha/beta oscillations: The same side of the same coin? M. ADAMEK*; P. BRUNNER; G. SCHALK. *New York State Dept. of Hlth., Albany Med. Col., State Univ. of New York.*

11:00 C58 **288.04** Synchronization of millihertz electrophysiological modulation revealed from bilevel spectral analysis of the pediatric EEG. M. E. LOE*; S. KHANMOHAMMADI; R. MATHER; S. TOMKO; M. MORRISSEY; R. M. GUERRIERO; S. CHING. *Washington Univ. in St. Louis, Washington Univ. In St. Louis, Washington Univ. Sch. of Med., Washington Univ. in St. Louis.*

8:00 C59 **288.05** Spatio-temporal characterization of TMS-EEG responses to antiepileptic drugs. G. DARMANI*; J. O. NIEMINEN; U. ZIEMANN. *Hertie Inst. for Clin. Brain Research, Univ. of Tuebingen, Hertie Inst. For Clin. Brain Research, Univ. of Tuebingen, Aalto Univ. Sch. of Sci.*

9:00 C60 **288.06** Transcutaneous vagus nerve stimulation in humans induces pupil dilation and modulates EEG brain rhythms. O. SHARON*; F. FAHOUM; Y. NIR. *Tel-Aviv Univ., Tel Aviv Sourasky Med. Ctr., Tel-Aviv Univ.*

10:00 C61 **288.07** Suppression of the hippocampal gamma activity in general anesthesia. M. CHOE*; S. JIN; S. JUN; J. KIM; C. CHUNG. *Seoul Natl. Univ., Seoul Natl. Univ., Seoul Natl. Univ., Seoul Natl. Univ. Hosp.*

11:00 C62 **288.08** Level of consciousness is dissociable from cortical complexity and slow oscillations. J. DEAN*; D. PAL; D. LI; M. BRITO; A. FRYZEL; A. G. HUDETZ; G. A. MASHOUR. *Univ. of Michigan, Univ. of Michigan, Univ. of Michigan.*

8:00 C63 **288.09** Oscillatory correlates of affect expectation using EEG. E. BENZAQUEN*; T. D. GRIFFITHS; S. KUMAR. *Newcastle Univ.*

• Indicated a real or perceived conflict of interest, see page 150 for details.
▲ Indicates a high school or undergraduate student presenter.
* Indicates abstract's submitting author

9:00 C64 **288.10** Differential effects of prestimulus alpha power on perceived stimulus intensity and initial cortex excitation in a somatosensory discrimination task. T. STEPHANI*; A. HODAPP; A. VILLRINGER; V. V. NIKULIN. *Max Planck Inst. for Human Cognitive and Brain Sci., Intl. Max Planck Res. Sch. NeuroCom, Humboldt Univ. zu Berlin, Univ. Hosp. Leipzig, Natl. Res. Univ. Higher Sch. of Econ.*

10:00 C65 **288.11** Quantitative EEG features during interictal HFO events provide complementary information to HFO rates when identifying pathological tissue. S. V. GLISKE*; W. C. STACEY. *Univ. of Michigan.*

11:00 C66 **288.12** Sex related differences in cortical EEG, hippocampal LTD and de-depression, following prolonged exposure to surgical levels of isoflurane anesthesia. R. TADAVARTY*; T. MARIAM; X. DONG; S. LIU; T. CHEUNG; P. J. SOJA*. *The Univ. of British Columbia, Simon Fraser Univ.*

8:00 C67 **288.13** EEG microstates analysis associated with cognitive thinking. R. MAHAJAN*; T. AZMY; C. DEMAREE; D. GUPTA; F. CHOA. *Univ. of Maryland Baltimore County, Univ. of Maryland Baltimore County, UMBC.*

9:00 C68 **288.14** ● Causal evidence for theta-gamma and delta-beta cross frequency coupling in cognitive control. J. RIDDLE*; A. MCFERREN; F. FROHLICH. *Univ. of North Carolina at Chapel Hill.*

10:00 C69 **288.15** Tuning of SOBI recovered ocular artifact components by the direction and distance of directed saccadic eye movement. R. SUN*; C. CHAN; J. HSIAO; A. C. TANG. *The Univ. of Hong Kong, The Univ. of Hong Kong, The Univ. of Hong Kong.*

11:00 C70 **288.16** ▲ Cortical inactivity evoked by epileptic seizures is mediated by dysregulation of brainstem arousal circuits: Implications for REM and slow-wave sleep. C. ISGOR*; A. TYULMENKOVA; S. NICOLAS; A. TERHUNE; M. WARD-MOSES. *Florida Atlantic University, Col. of Med.*

8:00 C71 **288.17** Fluctuations of hemodynamic global signal are correlated with vigilance states in middle-age and older adults: A simultaneous EEG and fNIRS study. Y. CHEN*; J. ROQUE; J. TANG; M. A. CRAFT; B. W. CARLSON; H. YUAN. *Univ. Of Oklahoma, Univ. of Oklahoma, Univ. of Oklahoma Healthy Sci. Ctr.*

9:00 C72 **288.18** Theta power increase in the human visual cortex in response to novelty. E. W. TSANG*; R. SUN; X. NIU; W. FUNG; A. C. TANG. *The Univ. of Hong Kong.*

10:00 C73 **288.19** Resting-state MEG: A versatile marker of long-term brain adverse effects of leukemia treatments. V. OSWALD*; Y. ZEROUALI; D. MEUNIER; D. SINNETT; S. LIPPE; C. LAVERDIÈRE; M. KRAJINOVIC; K. JERBI; P. ROBAEY. *Univ. De Montréal, Univ. of Montréal, Aix-Marseille Univ., Univ. de Montréal, Univ. de Montréal, Univ. de Montreal, Lyon Neurosci. Res. Ctr. - Univ. Lyon I - U1028 - UMR5292.*

11:00 C74 **288.20** Detecting microscale physiological events beyond spikes and slow waves on the human cortical surface with PEDOT: PSS electrodes. A. C. PAULK*; J. C. YANG; D. R. CLEARY; D. J. SOPER; S. LEE; M. GANJI; H. OH; J. HERMIZ; V. GILJA; D. M. MAUS; P. S. JONES; D. P. CAHILL; Z. WILLIAMS; G. COSGROVE; S. BEN-HAIM; E. HALGREN; S. DAYEH; S. S. CASH. *Massachusetts Gen. Hosp., UCSD, UC San Diego, UCSD, UCSD, UCSD, UCSD, Harvard Med. Sch., Brigham and Women's Hosp., Univ. of California San Diego, Univ. of California San Diego, UC San Diego, Mass Genl Hosp.*

8:00 C75 **288.21** Whether preoperative evaluation of neuropsychological tests can predict the change in visuospatial function following DBS in Parkinson's disease. M. YAKUFUJIANG*; Y. HIGUCHI; Y. OKAHARA; K. AOYAGI; S. IKEGAMI; T. YAMAMOTO; M. IZUMI; M. ABE; Y. IWADATE. *Chiba Univ. Grad. Sch. of Med., Chiba Cerebral and Cardiovasc. Ctr., Chiba Univ., Chiba Univ. Hosp.*

9:00 C76 **288.22** Imaging of human brain using wireless and portable EEG during natural human activities outside of the laboratory. A. C. TANG*; R. SUN; E. TSANG; G. WONG. *The Univ. of Hong Kong.*

10:00 C77 **288.23** Metamemory monitoring and control: A high definition transcranial direct current stimulation study. C. WILLIAMSON*; E. CHUA. *CUNY The Grad. Ctr., Brooklyn Col.*

11:00 C78 **288.24** Scalp and intracranial EEG reveal intermingled surprise and error signals in performance monitoring networks. C. W. HOY*; S. C. STEINER; D. KING-STEPHENS; K. D. LAXER; P. WEBER; J. LIN; R. T. KNIGHT. *Univ. of California Berkeley, Univ. of California, Berkeley, California Pacific Med. Ctr., Univ. of California, Irvine, Univ. of California Berkeley.*

POSTER

289. Networks and Connectivity

Theme B – Neural Excitability/ Synapses/ and Glia

Mon. 8:00 AM – *McCormick Place, Hall A*

8:00 C79 **289.01** Local perturbations of cortical excitability propagate differentially through large-scale functional networks. Z. P. ROSENTHAL*; R. RAUT; P. YAN; D. KOKO; A. KRAFT; L. CZERNIEWSKI; B. ACLAND; A. MITRA; L. SNYDER; A. BAUER; A. SNYDER; J. CULVER; M. RAICHLE; J. LEE. *Washington Univ. In St Louis.*

9:00 C80 **289.02** ● Pharmacological modulation of whole-brain networks of functional connectivity in pre-clinical models. H. CRUCES-SOLIS*; R. ARBAN; W. NISSEN; B. FERGER. *Boehringer Ingelheim Pharma GmbH & Co. KG.*

10:00 C81 **289.03** Optical manipulation of parvalbumin and somatostatin inhibitory neurons reveal a differential effect on cortical up-state dynamics. J. L. ROMERO-SOSA*; H. MOTANIS; D. V. BUONOMANO*. *UCLA.*

11:00 C82 **289.04** Loss of KCNQ2 from interneurons leads to augmented NMDA receptor driven neuronal synchrony in the neonatal forebrain. B. HOU*; S. SANTANIELLO; A. TZINGOUNIS. *Univ. of Connecticut, Univ. of Connecticut.*

8:00 C83 **289.05** Coherence states and signal transfer of communicating gamma oscillatory neural networks. G. D. DUMONT*; B. S. GUTKIN. *Ecole Normale Superieure, Group For Neural Theory, LNC INSERM U960, Ecole Normale Superieure.*

9:00 C84 **289.06** Human cerebrospinal fluid enhances network function of human organotypic brain slice cultures as revealed by micro-electrode array recordings. A. CORNA*; J. WICKHAM; N. SCHWARZ; T. V. WUTTKE; H. KOCH; G. ZECK. *Univ. of Tübingen, Natural and Med. Sci. Inst. (NMI) at the Univ. of Tübingen, Hertie-Institute for Clin. Brain Res., Univ. of Tübingen.*

10:00 C85 **289.07** Inhibitory microcircuit function in the claustrum. M. GRAF*; G. J. AUGUSTINE. *Nanyang Technological Univ.*

- ● Indicated a real or perceived conflict of interest, see page 150 for details.
- ▲ Indicates a high school or undergraduate student presenter.
- * Indicates abstract's submitting author

11:00 C86 **289.08** The effects of altered norepinephrine transmission on functional connectivity in rats. M. KELBERMAN*; M. NEZAFATI; A. ABBAS; W. PAN; S. D. KEILHOLZ; D. WEINSHENKER. *Emory Univ. Sch. Med., Emory Univ.*

8:00 C87 **289.09** Synaptic organization of cortico-cortical communication in primate somatosensory cortex. M. M. ASHABER*; L. ZALÁNYI; E. PÁLFI; I. STUBER; T. KOVÁCS; R. M. FRIEDMAN; A. ROE; L. NEGYESSY. *Caltech, Wigner Res. Ctr. for Physics, Hungarian Acad. of Sci., Semmelweis Univ., Univ. of Physical Educ., Nokia Hungary Ltd, Oregon Hlth. & Sci. Univ. - ONPRC, Northwestern Univ., Wigner Res. Ctr. For Physics, Hun.acad.Sci.*

9:00 C88 **289.10** Hemispheric differences in functional interaction between dorsal lateral prefrontal cortex and ipsilateral motor cortex. Y. WANG*; N. CAO; J. ZHANG; R. CHEN. *Shanghai Univ. of Sports, Krembil Brain Inst.*

10:00 C89 **289.11** Three-dimensional *in vitro* neural tissue culture model to investigate network formation. Y. L. DINGLE*; V. LIAUDANSKAYA; N. VORA; M. BONZANNI; N. ROULEAU; K. C. BERLIND; I. GEORGAKOUDI; T. J. F. NIELAND; D. L. KAPLAN. *Tufts Univ.*

11:00 C90 **289.12** Avalanches in prefrontal cortex of the awake mouse. P. A. KELLS*; D. PLENZ. *Natl. Inst. of Mental Hlth.*

8:00 C91 **289.13** Modeling network effects of dendritic plateau potentials in cortical pyramidal neurons. J. W. GRAHAM*; P. P. GAO; S. DURA-BERNAL; S. SIVAGNANAM; M. L. HINES; S. D. ANTIC; W. W. LYTTON. *Neurosim Lab. @ SUNY Downstate, Univ. of Connecticut Hlth. Ctr., State Univ. of New York Downstate Med. Ctr., UCSD, Yale Univ., UConn Hlth., SUNY Downstate.*

9:00 C92 **289.14** ● Large-scale model of human cortex captures LSD-induced connectivity changes via HTR2A-mediated gain modulation. J. B. BURT*; K. H. PRELLER; M. DEMIRTAS; F. VOLLENWEIDER; A. ANTICEVIC; J. D. MURRAY. *Yale Univ., Psychiatric Univ. Hosp. Zürich, Yale Univ., Univ. of Zurich, Yale Univ., Yale Univ.*

10:00 D1 **289.15** Inference of cortical network connectivity using maximum entropy models. S. MAHALLATI*; M. R. POPOVIC; T. A. VALIANTE. *Univ. of Toronto, Krembil Res. Inst., Kite, Univ. Hlth. Network, Dept. of Surgery, Div. of Neurosurgery, Univ. of Toronto.*

11:00 D2 **289.16** Computational modeling of cortical transition to slow wave oscillations modulated by K-ATP current. B. SETZER*; M. M. KOWALSKI; M. M. MCCARTHY; N. J. KOPELL. *Boston Univ., Boston Univ.*

8:00 D3 **289.17** Entrainment of heterogeneous network with excitatory and inhibitory cells. J. WEI*; M. M. MCCARTHY; N. J. KOPELL. *Boston Univ., Boston Univ.*

9:00 D4 **289.18** ● Cortical UP DOWN state synchrony drives propofol phase amplitude coupling in slow waves. A. E. SOPLATA*; M. M. MCCARTHY; E. A. ROBERTS; E. N. BROWN; P. L. PURDON; N. J. KOPELL. *Boston Univ., MIT, Massachusetts Gen. Hosp.*

10:00 D5 **289.19** Abnormal cortical excitability in schizophrenia-like mouse models leads to impaired evoked gamma band activity during behavioral task performance. D. D. AGUILAR; L. K. RADZIK; R. E. STRECKER; J. M. MCNALLY*. *VABHS, Harvard Med. Sch., Stonehill Col.*

11:00 D6 **289.20** Altered lateral cortical spread of sensory-evoked signals in YAC128 mice. J. P. MACKAY*; M. H. MOHAJERANI; A. W. CHAN; M. D. SEPERS; E. T. KOCH; A. I. SMITH-DIJAK; T. H. MURPHY; L. A. RAYMOND. *Univ. of British Columbia, Univ. of Lethbridge, Univ. of British Columbia, UBC, Univ. of British Columbia, Univ. of Brithish Columbia, Univ. of British Columbia.*

8:00 D7 **289.21** A study of the resting state brain network dynamics between different arousal levels of awake mice. Z. HAN*; G. LI; Z. LIANG. *Inst. of Neurosci., Peking Univ., Inst. of Neuroscience, CAS.*

9:00 D8 **289.22** ● Causal role of the P25 TMS-evoked potential in modulation of motor cortex excitability: A TMS-EEG study. S. AHN*; F. FROHLICH. *Univ. of North Carolina at Chapel Hill, Carolina Ctr. for Neurostimulation.*

10:00 D9 **289.23** ● Prediction of peptidergic intracortical modulation networks from single-cell transcriptomic data. S. J. SMITH*; U. SÜMBÜL; L. GRAYBUCK; F. COLLMAN; S. SESHAMANI; R. GALA; O. GLIKO; L. ELABBADY; J. A. MILLER; T. BAKKEN; J. SCHARDT; J. ROSSIER; Z. YAO; E. LEIN; H. ZENG; B. TASIC; M. HAWRYLYCZ. *Allen Inst. for Brain Sci., Neurosci. Paris Seine, Sorbonne Univ.*

11:00 D10 **289.24** ● Causal role of the higher-order visual thalamus in cortico-cortical synchronization during sustained attention. W. A. HUANG*; Z. C. ZHOU; I. STITT; S. RADTKE-SCHULLER; F. FROHLICH. *Univ. of North Carolina at Chapel Hill, Univ. of North Carolina at Chapel Hill, Univ. of North Carolina at Chapel Hill, Univ. of North Carolina at Chapel Hill, Univ. of North Carolina at Chapel Hill.*

8:00 D11 **289.25** Optimizing cell encapsulation conditions in ECM-collagen hydrogels to support long-term maintenance of 3D neuronal cultures. D. LAM*; H. A. ENRIGHT; S. K. G. PETERS; J. CADENA; M. L. MOYA; D. A. SOSCIA; J. A. ALVARADO; K. S. KULP; E. K. WHEELER; N. O. FISCHER. *Lawrence Livermore Natl. Lab., Lawrence Livermore Natl. Lab.*

9:00 D12 **289.26** Biophysics of emergence and irreversibility of epileptiform activity in organotypic cultures of mouse cortex following homeostatic adjustment to activity deprivation. D. WISE*; S. VAN HOOSER; S. NELSON. *Brandeis Univ.*

10:00 D13 **289.27** ● Eminent increase in EEG gamma oscillation in the Wistar Kyoto rat model of treatment-resistant depression. N. UPTON*; M. S. DUXON; S. KANTOR. *Transpharmation LTD.*

11:00 D14 **289.28** Decreased delta oscillations after administration of TSPO ligands Pk11195, Ro5-4864, and FGIN1-27. M. I. KHUMNARK*; R. M. HINES; D. J. HINES. *Univ. of Las Vegas , Nevada, Univ. of Nevada Las Vegas.*

8:00 D15 **289.29** Pathological mechanisms of DSCR3 mediating APP trafficing in cognitive dysfunction of Down syndrome. Q. CUI*. *The Inst. for Brain Research, Collaborative In.*

● Indicated a real or perceived conflict of interest, see page 150 for details.
▲ Indicates a high school or undergraduate student presenter.
* Indicates abstract's submitting author

POSTER

290. Epilepsy: Animal Models and Network Dynamics

Theme B – Neural Excitability/ Synapses/ and Glia

Mon. 8:00 AM – *McCormick Place, Hall A*

8:00 D16 **290.01** Mossy cells in the rostral and caudal dentate gyrus differ in their patterns of axonal projections. C. R. HOUSER; Z. PENG; C. S. HUANG; X. WEI; I. MODY*. *David Geffen Sch. of Med. at UCLA, David Geffen Sch. of Med. at UCLA.*

9:00 D17 **290.02** Circuit reorganization of hippocampal mossy cell outputs in epilepsy. C. R. BUTLER*; G. L. WESTBROOK; E. SCHNELL. *Oregon Hlth. & Sci. Univ., Vollum Inst., Portland VA Med. Ctr.*

10:00 D18 **290.03** Identification of zinc-sensitive metal-regulatory transcription factor 1 positive neurons to study the hippocampal epileptic network activity. A. MECONI*; S. SCHOCH; A. J. BECKER; K. M. J. VAN LOO. *Inst. of Neuropathology.*

11:00 D19 **290.04** The effect of serotonergic neurotransmission and vigilance state on apnea during and after kindled seizures in mice. K. G. JOYAL*; B. S. PURNELL; G. F. BUCHANAN. *Univ. of Iowa.*

8:00 D20 **290.05** Effects of serotonin replacement on seizure profile in genetically serotonin neuron deficient mice subjected to the pilocarpine model of temporal lobe epilepsy. R. LI*; K. CLAYCOMB; M. MATKOVICH; G. F. BUCHANAN. *Univ. of Iowa Carver Col. of Med., Yale Sch. of Medicine, Dept. of Neurol., Univ. of Iowa.*

9:00 D21 **290.06** A heterogeneous thalamic network model that recapitulates oscillations modulated by GABA transporter blockade. A. C. LU*; C. K. LEE; B. TRUONG; K. S. SILIS; J. R. HUGUENARD; M. P. BEENHAKKER. *Univ. of Virginia, Stanford Univ. Sch. Med.*

10:00 D22 **290.07** Low glucose modulation of thalamocortical neuron excitability. K. A. SALVATI*; A. C. LU; M. L. RITGER; M. P. BEENHAKKER. *Univ. of Virginia, Univ. of Virginia, Univ. of Virginia.*

11:00 D23 **290.08** Local synaptic connectivity of subicular pyramidal neurons sorted by multivariate analysis and its impact on population activity. M. P. FISKE*; M. ANSTÖTZ; G. MACCAFERRI. *Northwestern Univ. Feinberg Sch. of Med., Northwestern Univ.*

8:00 D24 **290.09** Dysplastic neurons mediate epileptogenesis in tuberous sclerosis complex. L. S. HSIEH*; L. NGUYEN; A. F. BORDEY. *Yale Sch. of Med., Yale Sch. Med.*

9:00 D25 **290.10** Sustained network activity prevents development of post-traumatic epilepsy. O. C. GONZALEZ*; S. SOLTANI; S. CHAUVETTE; G. P. KRISHNAN; I. V. TIMOFEEV; M. V. BAZHENOV. *Univ. of California San Diego, CERVO Brain Res. Center, Univ. Laval, CRIUSMQ, Univ. Laval.*

10:00 D26 **290.11** Neuronal chloride loading triggers a cortical spreading depression. R. R. PARRISH*; R. T. JACKSON-TAYLOR; J. VOIPIO; A. J. TREVELYAN. *Newcastle Univ., Univ. of Helsinki, Newcastle Univ.*

11:00 D27 **290.12** Concurrent infraslow and high frequency recordings of pathological brain activity using arrays of graphene transistors in awake mice. R. C. WYKES*; E. MASVIDAL; T. M. SMITH; A. BONACCINI; X. ILLA; J. GARRIDO; A. GUIMERA-BRUNET. *UCL Inst. of Neurol., Inst. de Microelectronica de Barcelona (IMB-CNM, CSIC), Catalan Inst. of Nanoscience and Nanotechnology - ICN2, Ctr. de Investigación Biomédica en Red en Bioingeniería, Biomateriales y Nanomedicina (CIBER-BBN).*

8:00 D28 **290.13** *In vivo* approaches to study seizure generation and epileptogenesis in SCN1A knock-in mouse models. J. C. BAHR; M. HARRER; U. B. S. HEDRICH; H. KOCH; H. LERCHE. *Hertie Inst. for Clin. Brain Res.*

9:00 D29 **290.14** Seizure genesis broad spectrum dynamics in rodent epilepsy models. D. E. EHRENS*; F. ASSAF; N. J. COWAN; S. V. SARMA; Y. SCHILLER. *Johns Hopkins Sch. of Med., Technion Israel Inst. of Technol., Johns Hopkins Univ., Johns Hopkins Univ., Technion Med. Sch.*

10:00 D30 **290.15** All or nothing change in network excitability immediately before the transition into an ictal event. R. GRAHAM; L. ALBERIO; R. PARRISH; A. J. TREVELYAN*. *Newcastle Univ.*

11:00 D31 **290.16** Corticocortical evoked potentials reveal epileptogenic network and locate epileptogenic zone. K. SUN*; L. WANG; W. WANG. *Sch. of Syst. Science,Beijing Normal Univ., Inst. of Psychology, Chinese Acad. of Sci.*

8:00 D32 **290.17** Functional mapping of frontal motor seizures. A. BRODOVSKAYA*; S. SHIONO; J. WILLIAMSON; J. KAPUR. *Univ. of Virginia, Univ. Virginai Hlth. Sci. Ctr.*

9:00 D33 **290.18** ● Evoked assay of neural circuit function with microelectrode array (MEA) technology and *in vitro* cell culture models. D. C. MILLARD*; A. M. NICOLINI; C. A. ARROWOOD; H. B. HAYES; S. A. CHVATAL. *Axion Biosystems.*

10:00 D34 **290.19** Human cortical brain slice cultures derived from spare access tissue of epilepsy surgery: Implementation of a model system to study pathophysiological mechanisms of human disease. T. V. WUTTKE*; N. SCHWARZ; B. UYSAL; J. BAHR; N. LAYER; H. LÖFFLER; K. STANAITIS; Y. G. WEBER; U. B. HEDRICH; J. HONEGGER; A. SKODRAS; H. KOCH. *Hertie Inst. for Clin. Brain Res., Hertie Inst. for Clin. Brain Res., Univ. Hosp. Tübingen, German Ctr. for Neurodegenerative Dis. (DZNE).*

11:00 D35 **290.20** Characterization of WWOX-deficient cerebral organoids treated with 4-aminopyridine. A. SALEEM*; D. STEINBERG; M. AQUILINO; S. MYLVAGANAM; S. REPUDI; J. HANNA; R. AQEILAN; P. CARLEN. *Univ. of Toronto, Univ. Hlth. Network, Hebrew Univ. of Jerusalem, Weizmann Inst. of Sci.*

- • Indicated a real or perceived conflict of interest, see page 150 for details.
- ▲ Indicates a high school or undergraduate student presenter.
- * Indicates abstract's submitting author

POSTER

291. Aging: Molecular Mechanisms I

Theme C – Neurodegenerative Disorders and Injury

Mon. 8:00 AM – *McCormick Place, Hall A*

8:00 D36 **291.01** Single-cell transcriptomic profiling of the aging mouse brain. M. XIMERAKIS*; S. L. LIPNICK; B. T. INNES; S. K. SIMMONS; X. ADICONIS; D. DIONNE; B. A. MAYWEATHER; L. NGUYEN; Z. NIZIOLEK; C. OZEK; V. L. BUTTY; R. ISSERLIN; S. M. BUCHANAN; S. S. LEVINE; A. REGEV; G. D. BADER; J. Z. LEVIN; L. L. RUBIN. *Harvard Univ., Harvard Stem Cell Inst., Broad Inst. of MIT and Harvard, Harvard Med. Sch., Univ. of Toronto, Harvard Univ., MIT.*

9:00 D37 **291.02** Using novel mouse models to study the role of epigenetic alterations in age-related cognitive decline. J. M. ROSS*; G. COPPOTELLI; E. POTTS; J. AMORIM; E. HILLSTEDT; P. GRIFFIN; A. KANE; D. SINCLAIR. *Harvard Med. Sch., Karolinska Institutet, Univ. of Coimbra, The Univ. of Sydney.*

10:00 D38 **291.03** ▲ A novel pan-mammalian epigenetic clock to study disease-accelerated brain aging. N. WANG; A. C. YANG; A. T. LU; M. STRICOS; M. J. THOMPSON; M. PELLEGRINI; A. SPERLEA; J. ERNST; P. LANGFELDER; X. YANG*; S. HORVATH. *UCLA, UCLA, UCLA, UCLA.*

11:00 D39 **291.04** ● Neuroepigenetic alterations in white matter in the living human brain across the lifespan. T. M. GILBERT; N. R. ZURCHER; M. C. CATANESE*; C. J. TSENG; M. A. DI BIASE; A. E. LYALL; B. G. HIGHTOWER; A. J. PARMAR; A. BHANOT; C. WU; M. L. HIBERT; M. KIM; U. MAHMOOD; S. M. STUFFLEBEAM; F. A. SCHROEDER; C. WANG; J. ROFFMAN; D. HOLT; D. GREVE; O. PASTERNAK; M. KUBICKI; H. WEY; J. HOOKER. *MGH/ Martinos Ctr. for Biomed. Imaging, Brigham and Women's Hospital, Harvard Med. Sch., Massachusetts Gen. Hospital, Harvard Med. Sch.*

8:00 D40 **291.05** Recurrent herpes simplex virus type 1 infection modulates aging-related epigenetic markers in mouse brains. G. NAPOLETANI*; M. E. MARCOCCI; V. PROTTO; A. T. PALAMARA; G. DE CHIARA. *Sapienza Univ. of Rome, Natl. Res. Council, San Raffaele Pisana, IRCCS, Telematic Univ.*

9:00 D41 **291.06** Exceptionally long-lived proteins as pillars of mitochondrial architecture in mammalian brains. E. BOMBA-WARCZAK*; J. N. SAVAS. *Northwestern Univ.*

10:00 D42 **291.07** Extracellular vesicles in the adult murine brain: When heterogeneity reveals a different neuropathological potential. P. D'ACUNZO*; T. HARGASH; C. N. GOULBOURNE; M. PAWLIK; R. PEREZ-GONZALEZ; E. LEVY. *Nathan S. Kline Inst., New York Univ. Langone Hlth., Hosp. de la Santa Creu i Sant Pau, Ctr. for Networked Biomed. Res. on Neurodegenerative Dis. (CIBERNED), New York Univ. Langone Hlth., New York Univ. Langone Hlth.*

11:00 D43 **291.08** Arc content in blood circulating extracellular vesicles as a biomarker of memory-related plasticity in a rat model of aging. P. MORENO-CASTILLA; E. L. RIVERA; L. M. WANGLER; J. M. LONG; P. R. RAPP*. *NIH, Natl. Inst. on Aging.*

8:00 D44 **291.09** Age-dependent expression of neurodegeneration-causing antimicrobial peptides. L. E*; N. PUJOL; D. YAN. *Duke Univ., Ctr. d'Immunologie de Marseille-Luminy, CIML, Aix Marseille Univ., Duke Univ.*

9:00 D45 **291.10** Contribution of chaperone-mediated autophagy malfunctioning to aging and neurodegeneration. M. BOURDENX*; J. A. RODRIGUEZ; H. R. MONDAY; I. TASSET; A. DIAZ; P. E. CASTILLO; A. CUERVO. *Albert Einstein Col. of Med., Albert Einstein Col. of Med., Albert Einstein Coll Med.*

10:00 D46 **291.11** Vimentin protects neural stem cells from a loss of proteostasis. C. S. MORROW*; T. J. PORTER; C. XU; K. AKO-ASARE; H. H. HEO; D. L. MOORE. *Univ. of Wisconsin - Madison.*

11:00 E1 **291.12** Effects of reducing eEF2 phosphorylation via eEF2K deletion on cognitive impairments in aged mice. S. GOSRANI*; H. JESTER; X. ZHOU; T. MA. *Wake Forest Sch. of Med., Wake Forest Sch. of Med.*

8:00 E2 **291.13** Temporal reduction in proteasome activity results in irreversible protein aggregation in *Drosophila melanogaster.* T. SCHMIDT-GLENEWINKEL*; C. YEH; V. VERNACE; M. JANSEN; J. GAO; M. FIGUEREIDO-PEREIRA. *Hunter Col. and Grad. Ctr. of CUNY, Goodwin Col.*

9:00 E3 **291.14** Exploring the role of the endoplasmic reticulum unfolded protein response in *C. elegans* neurons. N. P. OZBEY*; S. IMANIKIA; C. KRUEGER; M. SHENG; M. CASANUEVA; R. C. TAYLOR. *MRC LMB, Babraham Inst.*

10:00 E4 **291.15** Inhibition of Thioredoxin interacting protein ameliorates age associated neuroinflammation and memory decline. S. ISMAEL*; L. LI; A. YOO; F. WAJIDUNNISA; M. KHAN; T. ISHRAT. *Univ. of Tennessee Hlth. Sci. Ctr., Univ. of Tennessee Hlth. science Ctr., Univ. of Tennessee Hlth. science Ctr.*

11:00 E5 **291.16** Hippocampal bradykinin B1 receptors blockade mitigates spatial learning and memory deficits in middle-aged rats. R. M. BITENCOURT; A. C. GUERRA DE SOUZA; M. A. BICCA*; F. A. PAMPLONA; N. DE MELLO; G. F. PASSOS; R. MEDEIROS; R. N. TAKASHI; J. B. CALIXTO; R. D. S. PREDIGER. *Univ. Federal de Santa Catarina, Inst. D'Or de Pesquisa e Ensino, UFRJ.*

8:00 E6 **291.17** Perirhinal cortex projection neurons to the dentate gyrus mediate novel object recognition in both young and aged mice. S. KOSMIDIS*; L. R. HARVEY; E. R. KANDEL. *Columbia Univ., Columbia Univ.*

9:00 E7 **291.18** Modulation of calcium dysregulation in aged F344 rats by FK506 and FK520. J. C. GANT*; O. THIBAULT; N. M. PORTER; E. M. BLALOCK; P. W. LANDFIELD. *Univ. of Kentucky, Univ. Kentucky Med. Ctr., Univ. of Kentucky, Univ. Kentucky Coll Med.*

10:00 E8 **291.19** DNMT1 deletion prevents age-related loss of cortical interneurons. C. BAYER; D. PENSOLD; A. HAHN; L. BERMUDEZ; T. PIELER; T. LINGNER; G. SALINAS-RIESTER; L. BLÜMEL; A. URBACH; G. ZIMMER-BENSCH*. *RWTH Aachen Univ., Univ. Hosp. Jena, Ctr. for Nanoscale Microscopy and Mol. Physiol. of the Brain, Transcriptome and Genome Analysis Lab., Jena Univ. Hosp.*

11:00 E9 **291.20** SIRT1 is negatively regulated by CHFR to maintain neuronal integrity. M. KIM*; J. SEO; J. SEOL. *Korea Brain Res. Inst., Seoul Natl. Univ.*

8:00 E10 **291.21** High-temperature-processed green tea potentiates neuronal differentiation by enhancing the levels of epimerized catechins that inhibit DNA methyltransferase1. H. KIM*; A. KIM; S. CHO; W. PARK. *AMOREPACIFIC R&D Unit.*

● Indicated a real or perceived conflict of interest, see page 150 for details.
▲ Indicates a high school or undergraduate student presenter.
* Indicates abstract's submitting author

POSTER

292. Alzheimer's Disease: Omics Approaches

Theme C – Neurodegenerative Disorders and Injury

Mon. 8:00 AM – *McCormick Place, Hall A*

8:00 E11 **292.01** Bioinformatics strategy to advance the interpretation of Alzheimer's disease GWAS discoveries. O. CHIBA-FALEK*; D. SPRAGUE; M. LUTZ. *Duke Med., Duke Univ.*

9:00 E12 **292.02** Reproducible bioinformatic tools for analysis of AMP-AD RNA-seq data. W. L. POEHLMAN*; J. A. EDDY; K. S. MONTGOMERY; K. DANG; T. THYER; M. A. PETERS; S. K. SIEBERTS; L. OMBERG; A. K. GREENWOOD; L. M. MANGRAVITE; B. A. LOGSDON; T. M. PERUMAL. *Sage Bionetworks.*

10:00 E13 **292.03** Agora: A platform for exploration of Alzheimer's disease evidence. A. K. GREENWOOD*; K. DAILY; J. GOCKLEY; T. PERUMAL; K. WOO; S. SIEBERTS; D. ALUTHGAMAGE; S. SIMON; R. DEMBOGURSKI; T. THYER; M. PETERS; K. DO; B. HOFF; M. DOERR; J. WOODBURN; L. OMBERG; B. A. LOGSDON; L. M. MANGRAVITE. *Sage Bionetworks.*

11:00 E14 **292.04** RNA splicing dysfunction exacerbates the progression of Alzheimer's disease. X. HAN*; P. CHEN; J. YUN; J. PENG. *St Jude Children's Res. Hosp., St Jude Children Res. Hosp., St. Jude Children's Res. Hosp.*

8:00 E15 **292.05** Translational study of biomarkers and potential drug targets for Alzheimer's disease. X. WANG*; T. XU; X. ZHANG; W. YU; Y. SUN; X. RONG. *Inst. Materia Med.*

9:00 E16 **292.06** Neural stem cell-derived exosomes promote synaptic resilience to amyloid beta and tau oligomers through modulation of neuroinflammatory tone via specific miRNAs. O. ZOLOCHEVSKA*; E. BISHOP; W. ZHANG; B. TUMURBAATAR; M. MICCI; G. TAGLIALATELA. *Univ. of Texas Med. Br., Univ. of Texas Med. Br., The Univ. of Texas Med. Br. At Galvesto, Univ. of Texas Med. Br. Dept. of Neurol.*

10:00 E17 **292.07** Behavioral and psychological symptoms of dementia (BPSD) in Alzheimer's disease: Antemortem clinical assessment and postmortem RNA-sequencing analysis. R. KESZYCKI*; D. FISHER; D. BENNETT; R. WILSON; H. DONG. *Northwestern Univ. Feinberg Sch. of Med., Rush Alzheimer's Dis. Ctr.*

11:00 E18 **292.08** ● Integrative network analysis identifies microglial-specific key drivers for phagosome and abeta-clearance in Alzheimer's disease. R. CHANG*. *Univ. of Arizona.*

8:00 E19 **292.09** A potential role for miRNAs in hippocampal maturation, sex-differences, and disease pathology as revealed by an analysis of the 5XFAD mouse model of Alzheimer's disease. R. S. NOWAKOWSKI*; J. L. BUNDY; C. M. VIED. *FSU Col. of Med., Duke Univ.*

9:00 E20 **292.10** Mutant presenilin 1 dysregulates exosome cargo derived from human induced pluripotent stem cell (iPSC) neurons, revealed by proteomics analyses. A. JONES*; Q. LIU; S. PODVIN; C. LIETZ; C. MOSIER; T. IKEZU; R. RISSMAN; S. YUAN; V. HOOK. *UCSD, Boston Univ. Sch. of Med.*

10:00 E21 **292.11** ▲ Exosome protein cargos and dynamics in Alzheimer's disease. D. GRAYKOWSKI*; Y. WANG; J. N. SAVAS. *Northwestern Univ., Northwestern Univ.*

11:00 E22 **292.12** Studying hierarchical connectome modularity structure in healthy aging versus Alzheimer's disease patients. Z. D. MORRISSEY*; L. ZHAN; O. A. AJILORE; O. LAZAROV; A. D. LEOW. *Univ. of Illinois at Chicago, Univ. of Pittsburgh, Univ. Illinois, Chicago.*

8:00 E23 **292.13** Elucidating retrotransposon dysregulation in Alzheimer's disease mouse model. J. AW*; D. LEUNG. *The Hong Kong Univ. of Sci. and Technol.*

9:00 E24 **292.14** Functional screening of miR126 targets in *in vitro* and *in vivo* AD models. H. NOH; S. SONG*; K. C. SONNTAG; H. SEO. *Hanyang Univ., McLean Hospital, Harvard Med. Sch.*

10:00 E25 **292.15** Estimation of late-onset Alzheimer's disease progression from post-mortem RNA-seq samples. S. MUKHERJEE; C. PREUSS; A. K. GREENWOOD; S. JAYADEV; G. A. GARDEN; G. CARTER; L. MANGRAVITE; B. LOGSDON*. *Microsoft, The Jackson Lab., Sage Bionetworks, Univ. of Washington.*

11:00 E26 **292.16** Chronic gamma entrainment induces a persistent neuroprotective state in mouse model of neurodegeneration. C. ADAIKKAN; A. MARCO; K. ABDELAAL*; L. TSAI. *MIT.*

8:00 E27 **292.17** Amyloid associated epigenomic signatures at promoters of late and early onset Alzheimer's risk genes in human hippocampal oligodendrocytes. E. RAMAMURTHY*; G. WELCH; J. CHENG; Y. YUAN; L. GUNSALUS; L. TSAI; A. R. PFENNING. *Carnegie Mellon Univ., The Picower Inst. for Learning and Memory, MIT.*

9:00 E28 **292.18** Gray and white matter neurovascular ceruplasmin expression in Alzheimer's disease. K. HARGIS-STAGGS*; E. S. JOHNSON; P. NELSON; E. M. BLALOCK. *Univ. of Kentucky, Univ. of Kentucky, Univ. of Kentucky, Univ. Kentucky Coll Med.*

10:00 E29 **292.19** Single-cell profiling of human neurons with neurofibrillary tangles in Alzheimer's disease. M. OTERO-GARCIA*; Y. XUE; Y. DENG; T. SHAKOURI; R. KAWAGUCHI; I. COBOS. *Stanford Univ., UCLA, The First Affiliated Hosp. of Xi'an Jiaotong Univ., UCLA.*

11:00 E30 **292.20** Epigenetic dysregulation of enhancers in neurons is associated with Alzheimer's disease pathology and cognitive symptoms. P. LI*; L. MARSHALL; G. OH; J. L. JAKUBOWSKI; D. GROOT; Y. HE; T. WANG; A. PETRONIS; V. LABRIE. *Van Andel Res. Inst., Ctr. for Addiction and Mental Hlth., Washington Univ. in St. Louis, Inst. of Biotechnology, Life Sci. Center, Vilnius Univ., Michigan State Univ.*

8:00 E31 **292.21** Cell-type specific, mechanistic and directional transcriptional regulatory networks in the brain. C. C. FUNK*; P. SHANNON; D. GIBBS; N. RAPPAPORT; M. ALLEN; M. CARRASQUILLO; N. ERTEKIN-TANER; T. E. GOLDE; I. SHMULEVICH; L. HOOD; N. PRICE. *Inst. For Systems Biol., Mayo Clin. Jacksonville, Col. of Medicine, Univ. of Florida.*

9:00 E32 **292.22** Epigenome signatures landscaped by histone H3K9me3 are associated with the synaptic dysfunction in Alzheimer's disease. M. LEE; J. LEE; S. HYEON; T. D. STEIN; A. C. MCKEE; N. W. KOWALL; J. KIM; D. HWANG; H. RYU*. *Inst. for Systems Biol., Boston Univ. Sch. of Med., KIST, Boston VA Med. Ctr., Boston Univ., VA Boston Healthcare Syst., Seoul Natl. Univ. Col. of Med., DGIST, Korea Inst. of Sci. and Technol.*

- ● Indicated a real or perceived conflict of interest, see page 150 for details.
- ▲ Indicates a high school or undergraduate student presenter.
- * Indicates abstract's submitting author

10:00 E33 **292.23** The synthetic amyloid bata oligomers induce pathological features associated with Alzheimer's disease in nonhuman primates. F. YUE; S. FENG; T. ZHANG; C. YUE; N. JING*. *Beijing Inst. of Geriatrics, Xuanwu Hosp. of Capital Med. Univ., Shanghai Inst. of Biochem. and Cell Biology, Chinese Acad. of Sci.*

11:00 E34 **292.24** Role of Unc5c, an Alzheimer's risk gene in late-onset AD in a novel mouse model. D. KARUNAKARAN*; N. KHALATYAN; A. KHATRI; B. WANG; K. R. SADLEIR; J. POPOVIC; R. J. WATTS; J. ATWAL; J. N. SAVAS; R. J. VASSAR. *Northwestern Univ., Denali Therapeut. Inc., Genentech.*

8:00 E35 **292.25** Quantitative analysis of endosomal pathology and basal forebrain cholinergic neuron (BFCN) morphology in young and aged Ts65Dn mice following maternal choline supplementation (MCS). M. K. GAUTIER*; M. J. ALLDRED; C. M. KELLEY; A. SALTZMAN; S. H. LEE; S. D. GINSBERG. *Nathan Kline Inst., New York Univ. Langone Med. Ctr., New York Univ. Langone Med. Ctr., Barrow Neurolog. Inst., Nathan Kline Inst., New York Univ. Langone Med. Ctr., New York Univ. Langone Med. Ctr.*

9:00 E36 **292.26** RNA-sequencing (RNA-seq) of medial septal nucleus basal forebrain cholinergic neurons (BFCNs) within the Ts65Dn mouse model of Down syndrome (DS) and Alzheimer's disease (AD) identifies dysregulated transcriptional pathways. M. J. ALLDRED*; S. H. LEE; S. C. PENIKALAPATI; T. LHAKHANG; A. HEGUY; S. D. GINSBERG. *Nathan Kline Inst., New York Univ. Langone Med. Ctr., Nathan Kline Inst., New York Univ. Langone Med. Ctr., New York Univ. Langone Med. Ctr., New York Univ. Langone Med. Ctr.*

10:00 E37 **292.27** RNA-sequencing (RNA-seq) of distinct deep and superficial hippocampal CA1 pyramidal neuron populations in a mouse model of Down syndrome (DS) and Alzheimer's disease (AD). S. D. GINSBERG*; S. C. PENIKALAPATI; H. M. CHAO; S. H. LEE; A. HEGUY; E. PETKOVA; M. J. ALLDRED. *Nathan S Kline Institute/NYU Langone Med. Ctr., New York Univ. Langone Med. Ctr., New York Univ. Langone Med. Ctr., New York Univ. Langone Med. Ctr., Nathan S Kline Institute/NYU Langone Med. Ctr., New York Univ. Langone Med. Ctr., Nathan S Kline Institute/NYU Langone Med. Ctr., New York Univ. Langone Med. Ctr.*

11:00 E38 **292.28** First identification of ITM2B partners in human retina. J. WOHLSCHLEGEL*; M. ARGENTINI; T. LÉGER; C. CONDROYER; C. ZEITZ; I. AUDO. *The Vision Inst., Inst. Jacques Monod.*

POSTER

293. Synaptic Dysfunction in Alzheimer's Disease: *In Vivo* Models II

Theme C – Neurodegenerative Disorders and Injury

Mon. 8:00 AM – *McCormick Place, Hall A*

8:00 E39 **293.01** Noise-induced hearing loss accelerates cognitive decline in a mouse model of Alzheimer's disease. S. COCCO; F. PACIELLO; M. RINAUDO; G. CONFORTO; D. TROIANI; A. R. FETONI; M. V. PODDA; G. PALUDETTI; C. GRASSI*. *Univ. Cattolica del Sacro Cuore, Univ. Cattolica del Sacro Cuore, Fondazione Policlinico Universitario A. Gemelli IRCCS.*

9:00 E40 **293.02** Amyloid precursor protein and Aβ in the ear and auditory system - Assessment of possible mechanistic relationships between hearing loss and cognitive decline in Alzheimer's disease. C. M. YUEDE*; D. F. WOZNIAK; K. K. OHLEMILLER; M. E. WARCHOL; M. A. RUTHERFORD; J. R. CIRRITO. *Washington Univ., Washington Univ., Washington Univ.*

10:00 E41 **293.03** Intrahippocampal administration of amyloid beta 42 diminishes catecholaminergic axons and disrupts spatial contextual memory. L. LANDA NAVARRO*; C. VELÁZQUEZ DELGADO; F. BERMÚDEZ RATTONI. *UNAM IFC.*

11:00 E42 **293.04** Divergent roles of astrocytic versus neuronal glutamate transporter EAAT2 deficiency on cognition and overlap with aging and Alzheimer's molecular signatures. A. SHARMA; S. KAZIM; C. LARSON; A. RAMAKRISHNAN; J. GRAY; B. MCEWEN; P. ROSENBERG; L. SHEN; A. C. PEREIRA*. *Icahn Sch. of Med., The Rockefeller Univ., Boston Children's Hosp.*

8:00 E43 **293.05** A novel epigenetic mechanism for synaptic and cognitive deficits in Alzheimer's disease. J. B. WILLIAMS*; Q. CAO; W. WANG; Z. YAN. *Univ. At Buffalo Jacobs Sch. of Med. and Biomed. Sci.*

9:00 E44 **293.06** Progressive deterioration of cellular and network dynamics in hippocampus of the novel Alzheimer's mouse model App^{NL-G-F}. L. ARROYO GARCÍA*, Sr; Y. ANDRADE-TALAVERA; H. BALLEZA-TAPIA; A. G. ISLA; P. NILSSON; A. FISAHN. *Karolinska Institutet.*

10:00 F1 **293.07** Changes in dentate gyrus granule cell spontaneous excitatory postsynaptic potentials and evoked responses to perforant path stimulation evaluated at 2 months of age in the Tg2576 mouse model of Alzheimer's disease neuropathology. D. ALCANTARA-GONZALEZ*; E. CHARTAMPILA; H. SCHARFMAN. *Nathan S. Kline Inst. For Psychiatric Res.*

11:00 F2 **293.08** MRI histopathology correlations of amyloid related imaging abnormalities (ARIA) in post mortem human brain samples. A. SCHERLEK*; D. BOCHE; J. A. R. NICOLL; B. J. BACSKAI; A. J. VAN DER KOUWE; S. M. GREENBERG; M. P. FROSCH; S. J. VAN VELUW. *Massachusetts Gen. Hosp., Univ. of Southampton.*

8:00 F3 **293.09** Noradrenergic denervation-supersensitivity in the TgF344-AD rat driven by β-adrenergic receptors. A. GOODMAN*; L. L. MCMAHON. *Univ. of Alabama At Birmingham.*

9:00 F4 **293.10** Investigating the roles of Papez circuit in health and Alzheimer's disease. W. HUANG*; L. LIU; H. MATHYS; Z. PENG; F. GAO; L. TSAI. *MIT, Broad Inst. of MIT and Harvard.*

10:00 F5 **293.11** ● Retromer repletion with AAV9-VPS35 restores endosomal function in the mouse hippocampus. Y. H. QURESHI*; D. E. BERMAN; R. L. KLEIN; V. M. PATEL; S. SIMOES; S. KANNAN; R. COX; S. D. WAKSAL; B. STEVENS; G. A. PETSKO; S. A. SMALL. *Columbia Univ., LSUHSC, Cornell Univ., Meira GTX, Boston Children's Hosp., Harvard Univ.*

11:00 F6 **293.12** Cleavage of neural cell adhesion molecules by BACE1 is spatio-temporally regulated *in vivo*. W. KIM*; S. LOMOIO; C. BANEVICIUS; H. WATANABE; G. TESCO. *Tufts Univ. Sch. of Med., Tufts Univ.*

● Indicated a real or perceived conflict of interest, see page 150 for details.
▲ Indicates a high school or undergraduate student presenter.
* Indicates abstract's submitting author

8:00 F7 **293.13** Converging cellular signaling pathways driving early synaptic pathology in AD. S. MUSTALY; S. SCHRANK; J. MCDAID; R. A. MARR; G. E. STUTZMANN*. *RFUMS/Chicago Med. Sch., Rosalind Franklin Univ. / Chicago Med. Sch.*

9:00 F8 **293.14** Glutamatergic neurotransmission and cognition in health, disease, aging, and intervention: Evidence from mouse models. E. R. HASCUP*; C. A. FINDLEY; N. ESPERANT-HILAIRE; J. BRITZ; L. SIME; S. MCFADDEN; E. LOKAITIS; Y. FANG; S. TISCHKAU; H. A. BOGER; A. BARTKE; K. N. HASCUP. *Southern Illinois Univ. Sch. of Med., Southern Illinois Univ. Sch. of Med., Med. Univ. of South Carolina Dept. of Neurosciences, Southern Illinois Univ. Sch. of Med.*

10:00 F9 **293.15** Hyperglutamatergic signaling throughout disease progression in Alzheimer's mouse models. K. N. HASCUP*; E. R. HASCUP. *Southern Illinois Univ. Sch. of Med.*

11:00 F10 **293.16** Loss of Presenilin function in inhibitory neurons causes impairments of memory, synaptic plasticity and age-dependent neurodegeneration. J. KANG*; S. LEE; J. SHEN. *Brigham & Women's Hospital, Harvard Med. Sch.*

8:00 F11 **293.17** Modeling sporadic Alzheimer's disease in mice through miR-34a targeted polygenic suppression. S. N. SARKAR*; E. B. ENGLER-CHIURAZZI; J. Z. CAVENDISH; J. M. POVROZNIK; A. RUSSELL; D. D. QUINTANA; P. MATHERS; J. W. SIMPKINS. *West Virginia Univ., West Virginia Univ.*

9:00 F12 **293.18** ATase1 is the preferential target to rescue the proteotoxicity associated with Alzheimer's disease. L. PUGLIELLI*; M. J. RIGBY; V. BANDUSEELA; G. KAUR; R. SULLIVAN; A. LAKKARAJU. *Univ. of Wisconsin Madison.*

10:00 F13 **293.19** ● A transient physiological role for amyloid beta oligomers during CNS development. W. L. KLEIN*; N. RAO; M. BICCA; E. HO; H. XIA; E. CLINE; S. BARTLEY; K. L. VIOLA; F. G. DE MELLO. *Northwestern Univ., Northwestern Univ. Feinberg Sch. of Med., Inst. de Biofisica Carlos Chagas Filho, Univ. Federal.*

11:00 F14 **293.20** Potential roles of APP-cleaved products in an animal model of temporal lobe epilepsy. S. KAR*; A. KODAM; D. OURDEV; M. MAULIK; A. SCHMAUS; A. DAHAL; Y. WANG. *Univ. of Alberta.*

POSTER

294. Molecular Underpinnings of LRRK2 Function and Dysfunction

Theme C – Neurodegenerative Disorders and Injury

Mon. 8:00 AM – *McCormick Place, Hall A*

8:00 F15 **294.01** Proteomic analysis of lamellar bodies in Lrrk2 knockout mice. M. ARAKI*; S. TAKATORI; G. ITO; T. TOMITA. *The Univ. of Tokyo.*

9:00 F16 **294.02** LRRK2 regulates microglial neurotoxicity via NFATc2 in synucleinopathies. C. KIM*; A. BEILINA; N. SMITH; Y. LI; M. KIM; R. KUMARAN; A. KAGANOVICH; M. ADAMANTIOS; A. ADAM; M. IBA; S. KWON; S. SHIN; R. RISSMAN; S. YOU; S. LEE; A. SINGLETON; M. COOKSON; E. MASLIAH. *Natl. Inst. on Aging, Natl. Inst. of Neurolog. Disorders and Stroke, Cedars-Sinai Med. Ctr., UCSD, Seoul Natl. Univ. Col. of Med.*

10:00 F17 **294.03** LRRK2 regulates HDAC6 dependent aggresome formation. R. M. LUCAS; C. S. BAUER; K. CHINNAIYA; A. SCHWARTZENTRUBER; R. M. MACDONALD; M. O. COLLINS; J. O. AASLY; G. BRØNSTAD; L. FERRAIUOLO; H. MORTIBOYS; K. J. DE VOS*. *The Univ. Of Sheffield, The Univ. of Sheffield, St Olav's Hosp., Neurozym.*

11:00 F18 **294.04** ATP13A2 functionally interacts with LRRK2 in Parkinson's disease models. M. ERB*; A. PODHAJSKA; J. KORDICH; N. LEVINE; D. J. MOORE. *Van Andel Res. Inst., Swiss Federal Inst. of Technol. (EPFL).*

8:00 F19 **294.05** Leveraging LRRK2 biology to develop therapeutic opportunities for Parkinson's disease. C. CHEN; M. CLUTTER; L. PARISIADOU. *Northwestern Univ. Feinberg Sch. of Med., Northwestern Univ.*

9:00 F20 **294.06** A novel protective role for N-acylphosphatidylethanolamine phospholipase D in 6-OHDA-induced neurodegeneration. F. PALESE*; S. PONTIS; N. REALINI; D. PIOMELLI. *Univ. of California Irvine, Italian Inst. of Technol.*

10:00 F21 **294.07** LRRK2 kinase inhibitor mitigates rotenone-induced cellular senescence in dopaminergic neurons. D. HO*; I. SON; W. SEOL. *InAm Neurosci. Res. Ctr.*

11:00 F22 **294.08** The Michael J. Fox Foundation's efforts to develop new tools for understanding LRRK2 biology and the role of LRRK2 in Parkinson's disease pathology. N. K. POLINSKI*; T. MARTINEZ; A. TRAN NGUYEN; D. J. MOORE; S. M. YOUNG, JR; A. KALOGEROPULOU; D. R. ALESSI; S. PADMANABHAN; M. BAPTISTA; K. DAVE. *The Michael J. Fox Fndn., Van Andel Res. Inst., Van Andel Res. Inst., Univ. of Iowa, Univ. of Dundee.*

8:00 F23 **294.09** Collapsin response mediator protein (CRMP)-2 is pathological target in LRRK2 R1441G Parkinson's disease model. J. SONG*; J. JEON; T. KIM; H. SEO. *Hanyang Univ.*

9:00 F24 **294.10** ▲ Increased sleep spindle density in LRRK2 G2019S mice. E. J. MONROE*; L. M. CROWN; M. J. BARTLETT; J. WIEGAND; A. J. EBY; T. FALK; S. L. COWEN. *Univ. of Arizona, Univ. Of Arizona, Univ. of Arizona Col. of Med., Univ. of Arizona, Univ. of Arizona Col. of Med., Univ. of Arizona.*

10:00 F25 **294.11** Neuroprotective effects of lifespan-extending pathways in a G2019S LRRK2 model of Parkinson's disease. M. SENCHUK*; J. VAN RAAMSDONK; D. MOORE. *Van Andel Res. Inst., Harvard.*

11:00 F26 **294.12** The G2019S LRRK2 mutation affects the oxidative stress and neurodegenerative response in a novel dual-hit *in vitro* co-culture of Parkinson's disease. T. J. CHARLTON*; B. M. FENNER; Z. DWYER; W. WILLMORE; S. HAYLEY. *Carleton Univ., Kings Col.*

• Indicated a real or perceived conflict of interest, see page 150 for details.
▲ Indicates a high school or undergraduate student presenter.
* Indicates abstract's submitting author

POSTER

295. Alpha-Synuclein Models and Mechanisms I

Theme C – Neurodegenerative Disorders and Injury

Mon. 8:00 AM – *McCormick Place, Hall A*

8:00 F27 **295.01** ● Towards the development of a marmoset model of Parkinson’s disease based on the spreading of human alpha-synuclein pre-formed fibrils. C. KWAN*; D. BÉDARD; M. KANG; S. G. NUARA; J. C. GOURDON; A. MATHIEU; C. L. TARDIF; G. MASSARWEH; T. M. DURCAN; A. HAMADJIDA; E. A. FON; P. ROSA-NETO; S. FREY; P. HUOT. *Montreal Neurolog. Inst., McGill Univ., Douglas Res. Ctr., Rogue Res. Inc.*

9:00 F28 **295.02** Early sociability and social memory impairment in A53T mouse model of Parkinson’s disease are ameliorated by chemogenetic modulation of orexin neuron activity. M. STANOJLOVIC*; J. PALLAIS; A. VIJAYAKUMAR; C. M. KOTZ. *Univ. of Minnesota, Univ. of Minnesota Twin Cities.*

10:00 F29 **295.03** Osmotin mitigates susceptibility of alpha-synuclein and mptp induced neuropathology and dopaminergic neuronal death via the AMPK activation. M. JO*; M. JO; M. IKRAM; M. KIM; M. KIM. *Gyeongsang Natl. Univ.*

11:00 F30 **295.04** Alpha synucleinopathy associated cabl activation causes p53 dependent autophagy impairment. R. KARIM*; E. E. LIAO; M. K. LEE. *Univ. of Minnesota, Univ. of Minnesota.*

8:00 F31 **295.05** Oligodendrocyte dysfunction in Parkinson’s disease: A study case. C. AZEVEDO*; G. TEKU; M. CHUMARINA; M. VIHINEN; L. ROYBON. *Lund Univ.*

9:00 F32 **295.06** The propagation of alpha-synuclein in the central nervous system and other organ systems in the Parkinson’s disease rat model. L. CHEUNG*; Y. CHEN; C. WANG. *Natl. Taiwan Univ., Natl. Taiwan Univ., Natl. Taiwan Univ., Natl. Taiwan Univ. and Academia Sinica.*

10:00 F33 **295.07** Transneuronal Propagation of Pathologic α-synuclein From the Gut to the Brain Models Parkinson’s Disease. S. KIM*; S. KWON; T. KAM; N. PANICKER; S. S. KARUPPAGOUNDER; S. LEE; J. LEE; W. KIM; M. KOOK; C. A. FOSS; C. SHEN; S. KULKARNI; P. J. PASRICHA; G. LEE; M. G. POMPER; V. L. DAWSON; T. M. DAWSON; H. KO. *Johns Hopkins Univ., Univ. of Alabama at Birmingham Sch. of Med., Johns Hopkins Univ., Shanghai Jiao Tong Univ. Affiliated Sixth People’s Hosp., Johns Hopkins Univ.*

11:00 F34 **295.08** Poly(ADP-ribose) bound α-synuclein fibrils display different binding properties of PET tracers. Z. LENGYEL*; L. PUENTES; J. J. FERRIE; J. PETERSSON; R. H. MACH. *Univ. of Pennsylvania, Univ. of Pennsylvania, Univ. of Pennsylvania.*

8:00 F35 **295.09** Modulation of lipid metabolism alters alpha-synuclein based aggregation and toxicity in Parkinson’s disease. J. W. NICHOLATOS*; L. A. HRDLICKA; L. DANG; J. GROOT; X. HRONOWSKI; W. D. HIRST; A. WEIHOFEN. *Biogen.*

9:00 F36 **295.10** Mapping alpha-synuclein-induced brain pathology in a mouse model of Parkinson’s disease. S. TULLO*; E. DEL CID-PELLITERO; D. R. GALLINO; M. R. PATEL; E. A. FON; M. CHAKRAVARTY. *Douglas Mental Hlth. Univ. Inst., Montreal Neurolog. Inst., Douglas Mental Hlth. Univ. Inst.*

10:00 F37 **295.11** Endogenous astrocytic CDNF protects dopamine neurons in AAV-A53T-α-synuclein rat model. K. KYOUNG IN*; J. JANG; A. HONG; Y. CHUNG; B. JIN. *Dept. of Neuroscience, Grad. School, Kyung Hee Univ., Dept. of Biochem. & Mol. Biology, Kyung Hee Univ.*

11:00 F38 **295.12** ● Examination of pathological synuclein phosphorylation in relation to the spatial and temporal progression of tyrosine hydroxylase depletion and other disease-related endpoints in an intracranial seeding mouse model of Parkinson’s disease. R. C. GENTZEL*; J. SUGAM; D. TOOLAN; W. GOCAL; S. PARMENTIER-BATTEUR; S. M. SMITH; J. MARCUS. *Merck and Co., Inc.*

8:00 F39 **295.13** 14-3-3theta reduces behavioral deficits and alpha-synuclein inclusions in the alpha-synuclein fibril model. T. A. Y. YACOUBIAN*; R. N. UNDERWOOD; M. GANNON; S. CHANDRA; A. KLOP; A. PATHAK. *Univ. Alabama Birmingham, Univ. of Alabama at Birmingham, Univ. of Alabama at Birmingham.*

9:00 F40 **295.14** ● Could an anti-inflammatory mediator be the culprit in Parkinson’s disease? J. DELA CRUZ*. *InTouch BioSolutions LLC.*

10:00 F41 **295.15** Rab27b regulates alpha synuclein release, toxicity and clearance. R. N. UNDERWOOD*; B. WANG; T. YACOUBIAN. *Univ. of Alabama at Birmingham.*

11:00 F42 **295.16** Cytosolic trapping of a mitochondrial heat shock protein is an early pathological event in synucleinopathies. T. F. OUTEIRO*; E. M. SZEGO. *Univ. Med. Ctr. Goettingen.*

8:00 F43 **295.17** Synonymous single nucleotide polymorphism alters SNCA mRNA and protein homeostasis *in vitro.* K. M. VON HERRMANN*; K. W. HORN; L. A. SALAS; F. L. ANDERSON; B. C. CHRISTENSEN; M. C. HAVRDA. *Geisel Sch. of Med. at Dartmouth, Dartmouth Col.*

9:00 F44 **295.18** Synucleinopathy in action: From motion to vision. E. DE LEONIBUS*; E. MARROCCO; F. ESPOSITO; A. CARBONCINO; V. TARALLO; F. G. ALVINO; A. INDRIERI; S. DE FALCO; B. FRANCO; M. DE RISI; E. M. SURACE. *TIGEM, Inst. of Cell. Biol. and Neurobio. (IBCN), Monterotondo (Rome), Natl. Res. Council, Italy, Telethon Inst. of Genet. and Med. (TIGEM), Inst. of Genet. and Biophysics, CNR, Telethon Inst. of Genet. and Med. (TIGEM, Dept. of Translational Medicine, “Federico II” Univ.*

10:00 F45 **295.19** ● Deep convolutional neural network -based analysis of Lewy body pathology in mice. M. T. A. AIRAVAARA*; I. PARKKINEN; K. ALBERT; K. PITKÄNEN; S. BLOM; K. C. LUK; M. H. VOUTILAINEN; J. KORPIKOSKI. *Neurosci. Center, Hilife, Univ. of Helsinki, Inst. of Biotechnology, HiLIFE, Univ. of Helsinki, Univ. of Helsinki, Aiforia Technologies Oy, Univ. Pennsylvania, Univ. of Helsinki, Inst. of Biotechnology, Univ. of Helsinki.*

- ● Indicated a real or perceived conflict of interest, see page 150 for details.
- ▲ Indicates a high school or undergraduate student presenter.
- * Indicates abstract’s submitting author

POSTER

296. Mouse Models of Tauopathies

Theme C – Neurodegenerative Disorders and Injury

Mon. 8:00 AM – *McCormick Place, Hall A*

8:00 F46 **296.01** ● A novel tau transgenic mouse model overexpressing human tau and an aggregation-prone tau sequence shows tau hyperphosphorylation and behavioral deficits in the Morris water maze. T. W. ROSAHL*; G. B. VARTY; S. M. SMITH; R. C. GENTZEL; N. CARROLL; L. SILENIEKS; G. A. HIGGINS; J. SCHACHTER. *Merck Res. Labs., Merck Res. Labs, Merck Res. Labs., Merck & Co., InterVivo Solutions, InterVivo Solutions Inc.*

9:00 G1 **296.02** Detection of alpha-synuclein aggregates in the brain of two different mouse strains of tauopathy model, rTg4510 and PS19. Y. TAKAICHI*; T. WASHINUMA; H. INOUE; Y. ANO; J. K. CHAMBERS; K. UCHIDA; A. TAKASHIMA; H. NAKAYAMA. *The Univ. of Tokyo, Kirin Company, Limited, Gakushuin Univ.*

8:00 DP04/G2 **296.03** (Dynamic Poster) Transmissibility of SOD1 prion strains between mice expressing different mutant human SOD1s. E. EKHTIARI BIDHENDI*; P. ANDERSEN; S. MARKLUND; T. BRÄNNSTRÖM. *Umea Univ., Umea Univ.*

11:00 G3 **296.04** Sustained downregulation of G protein coupled arginine receptor GPRC6A improves cognition in a mouse model of tauopathy. C. MA*; S. PANDEY; M. VASISHT; M. KALLUPURACKAL; J. CALAHATIAN; H. LIANG; M. WATLER; D. BLAZIER; J. HUNT; S. VARGHESE-GUPTA; P. BICKFORD; D. LEE. *Univ. of South Florida, Col. of Pharm., Univ. of South Florida, Morsani Col. of Med.*

8:00 G4 **296.05** ▲ Progress towards the first preclinical model of progressive supranuclear palsy. G. S. KING*; K. M. VEROS; S. D. CLARK. *Univ. At Buffalo- SUNY.*

9:00 G5 **296.06** ● The anti-tau antibody HJ8.5 reduces tau seeding and aggregation *in vitro* and *in vivo.* L. E. RUETER*; A. STRIEBINGER; S. BARGHORN; H. WU; J. BREWER; C. HAMILTON; R. CHANG; T. DELLOVADE; K. SCHLEGEL; M. MEZLER; F. LE PRIEULT; K. KAYGISIZ; K. DIRY; D. CLAUSZNITZER. *Abbvie, AbbVie, AbbVie, AbbVie.*

10:00 G6 **296.07** ▲ Microbiome manipulation modifies tau-mediated neurodegeneration in *Drosophila melanogaster.* H. KOHL; V. HYDE; K. M. LOHR*. *Washington and Jefferson Col.*

11:00 G7 **296.08** Electrophysiological and behavioral properties in the striatum of the K3 transgenic mouse. M. MO*; M. E. JÖNSSON; M. A. MATHEWS; D. JOHNSTONE; T. T. FURLONG; B. W. BALLEINE; L. M. ITTNER; A. J. CAMP. *Univ. of Sydney, NeuRA.*

8:00 G8 **296.09** ● Neuropsychiatric symptoms in mouse models of AD and bvFTD. E. S. E. DREESEN*; L. ROBINSON; V. MELIS; P. MOREAU; C. HARRINGTON; C. M. WISCHIK; G. RIEDEL. *Univ. of Aberdeen.*

9:00 G9 **296.10** ▲ Behavioral characterization of sensorimotor, neuropsychiatric, and cognitive function in transgenic mice overexpressing human tau. I. SAFI; Y. AL-RHAYYEL; D. E. HERMAN; L. LIN; S. M. FLEMING; C. M. DENGLER-CRISH*. *Northeast Ohio Med. Univ.*

10:00 G10 **296.11** Age-dependent and region-specific miRNAs deregulation in the hTau mouse model of tauopathy. E. LAURETTI*; D. PRATICO. *Lewis Katz Sch. of Med. at Temple Univ.*

POSTER

297. ALS and Motor Neuron Disease

Theme C – Neurodegenerative Disorders and Injury

Mon. 8:00 AM – *McCormick Place, Hall A*

8:00 G11 **297.01** Two axes of CHCHD10^{S59L} dominant toxicity: TDP-43 and PINK1. N. KIM*; Y. CHOE; M. BAEK. *Univ. of Minnesota.*

9:00 G12 **297.02** Perturbed atlastin-1 results in axonal and synaptic defects in human cortical neurons. Y. MOU*; Y. DONG; S. MUKTE; S. ZHANG; X. LI. *Univ. of Illinois, Univ. of Wisconsin - Madison, Univ. Of Wisconsin - Madison, Univ. of Illinois.*

10:00 G13 **297.03** Abnormal interaction between p97/VCP and a concealed UBX domain in adjacent missense alleles (A988V and T994I) of the Menkes disease copper transporter ATP7A cause an isolated distal motor neuropathy resembling Charcot-Marie-Tooth disease type 2 (CMT2). L. YI*; K. MATHEWS; S. G. KALER. *NICHD/NIH, Univ. of Iowa Stead Family Children`s Hosp., NICHD.*

11:00 G14 **297.04** NEK1 loss-of-function in iPSC-derived motor neurons causes ALS-related phenotypes. R. P. MAYERS*; E. L. DALEY; L. TELLEZ; J. E. LANDERS; E. KISKINIS. *Northwestern Univ., Univ. of Massachussetts Med. Sch.*

8:00 G15 **297.05** Oligodendrocytes dysfunction by EWSR1 deficiency impairs myelination of motor neurons in amyotrophic lateral sclerosis (ALS). J. LEE*; P. T. NGUYEN; E. KIM; A. CHUNG; N. W. KOWALL; S. LEE; H. PARK; H. RYU. *Boston Univ. Sch. of Med., Boston Univ. Alzheimer's Dis. Ctr., VA Boston Healthcare Syst., Korea Inst. of Sci. and Technol., Korea Univ., Tulane Univ. Sch. of Med.*

9:00 G16 **297.06** Amyotropic lateral sclerosis associated with the frontotemporal dementia spectrum. Gene variants of FUS and GRN. M. J. MORALES-ARMENTA*; P. YESCAS-GÓMEZ; E. S. VARGAS-CAÑAS; M. BOLL; E. ÁLVAREZ; T. ZÚÑIGA-SANTAMARÍA; D. F. MOLOTLA-TORRES; I. FRICKE-GALINDO. *Univ. Veracruzana, Inst. Nacional De Neurología Y Neurocirugía, Inst. Nacional De Neurología Y Neurocirugía, Inst. Nacional De Neurología Y Neurocirugía, Univ. Autónoma de la Ciudad de México.*

10:00 G17 **297.07** ALS-linked FUS induces nuclear pore defects in patient-derived motor neurons. Y. LIN*; M. S. KUMAR; D. GRUNWALD; D. A. BOSCO. *Umass Med. Sch.*

11:00 G18 **297.08** Accumulation of cytoplasmic Nup62 initiates TDP43 aggregate formation. A. GLEIXNER*; J. GALE; J. R. MANN; K. E. COPLEY; J. C. MAUNA; C. J. DONNELLY. *Univ. of Pittsburgh, Univ. of Pittsburgh, Univ. of Pittsburgh, Univ. of Pittsburgh, Univ. of Pittsburgh Dept. of Neurobio., Univ. of Pittsburgh.*

8:00 G19 **297.09** Mitochondrial dysfunction and energy metabolism deficits in post-mortem C9ORF72 ALS motor cortex. A. MILLS*; T. PETROZZIELLO; E. A. BORDT; S. M. K. FARHAN; R. BAKSHI; S. D. BILBO; S. PAGANONI; G. SADRI-VAKILI. *Massachusetts Gen. Hosp., Harvard Med. School/Massachusetts Gen. Hospi, Massachusetts Gen. Hosp., Massachusetts Gen. Hosp., Harvard Med. School/MGH, Massachusetts Gen. Hosp., Massachusetts Gen. Hosp.*

9:00 G20 **297.10** C9orf72 arginine-containing dipeptide repeat proteins disrupt nuclear import. L. R. HAYES*; K. BOWEN; L. DUAN; P. KALAB; J. D. ROTHSTEIN. *Johns Hopkins Univ., Johns Hopkins Whiting Sch. of Engin., Johns Hopkins Univ.*

- • Indicated a real or perceived conflict of interest, see page 150 for details.
- ▲ Indicates a high school or undergraduate student presenter.
- * Indicates abstract's submitting author

10:00 G21 **297.11** ▲ Ubiquilin-2 efficiently lowers levels of common disease proteins, including the ALS-linked protein TDP-43. J. WELDAY*; J. E. GERSON*; S. S. PISTORIUS; J. D. GREGORY; L. M. SHARKEY; H. L. PAULSON. *Univ. of Michigan- Ann Arbor, Univ. of Michigan, Univ. of Michigan, Univ. Michigan, Univ. of Michigan Dept. of Neurol.*

11:00 G22 **297.12** Defects in muscle ion channels contribute to motor dysfunction in spinal and bulbar muscular atrophy. Y. XU*; M. KATSUNO; H. ADACHI; G. SOBUE; M. BREEDLOVE; C. JORDAN. *Michigan State Univ., Nagoya Univ. Grad. Sch. of Med., Univ. of Occup. and Envrn. Hlth. Sch. of Med.*

8:00 G23 **297.13** Two tales of one function physicochemical epidemiology evidence that loss of angiogenin function promotes amyotrophic lateral sclerosis onset but improves survival after onset. K. C. ALURI*; J. SALISBURY; J. N. AGAR. *Northeastern Univ., Brandeis Univ.*

9:00 G24 **297.14** Exosomes secreted by diseased ALS cerebral cortex include messages to modulate disease progression. E. XIE*; M. GAUTAM; J. R. BRENT; N. KOCAK; O. GOZUTOK; H. Y. SHIN; N. L. ANGELONI; C. S. THAXTON; P. OZDINLER. *Northwestern Univ. Feinberg Sch. of Med., Northwestern Univ. Feinberg Sch. of Med., Northwestern Univ.*

10:00 G25 **297.15** Answer ALS: On the road to identifying biological subgroups in sporadic ALS thru a population based mult-iomics. J. D. ROTHSTEIN*; C. N. SVENDSEN; L. M. THOMPSON; E. FRAENKEL; J. VAN EYKE; D. SAREEN; N. J. MARAGAKIS; J. BERRY; T. THOMPSON; E. BAXI. *Johns Hopkins Univ., Cedars-Sinai Med. Ctr., Univ. California, MIT, Ceders Sinai, Cedars Sinai, Johns Hopkins Univ. Dept. of Neurol. and Neurosurg., Mass Gen., UC Irvine.*

11:00 G26 **297.16** Poly(adp-ribosylation) regulates stress granule dynamics, phase separation, and neurotoxicity of disease-related rna-binding proteins. Y. DUAN*; A. DU; J. GU; C. LIU; Y. FANG. *Interdisciplinary Res. Ctr. on Biol. and Chemistry, SIOC, Chinese Acad. of Sci., Univ. of Chinese Acad. of Sci.*

8:00 G27 **297.17** High spatio-temporal resolution locomotor analysis of Sod mutants revealed distinct modes of hyperactivity in the circadian behavior induced by oxidative stress in *Drosophila.* A. U. UEDA*; C. WU. *Univ. of Iowa, Univ. of Iowa.*

9:00 G28 **297.18** Aberrant production of netrin-1 by astrocytes contributes to motor neuron death in the SOD1-G93A mouse model of ALS. D. TROTTI*; S. S. MARKANDAIAH; K. KRISHNAMURTHY; K. MCAVOY; M. E. CICARDI; P. PASINELLI. *Thomas Jefferson Univ.*

10:00 G29 **297.19** Progressive changes to nodes of ranvier of motor axons in the SOD1^{G93A} mouse model of amyotrophic lateral sclerosis. M. KRACMEROVÁ; K. P. DIMINTIYANOVA; D. B. JENSEN; C. F. MEEHAN*. *Univ. of Copenhagen, Univ. of Copenhagen.*

11:00 G30 **297.20** Impaired axonal potassium channel function in the SOD1^{G93A} mouse model of amyotrophic lateral sclerosis. K. P. DIMINTIYANOVA*; D. B. JENSEN; C. F. MEEHAN; M. MOLDOVAN. *Univ. of Copenhagen, Univ. of Copenhagen, Univ. of Copenhagen.*

8:00 G31 **297.21** Aberrant synaptic physiology and morphology in *drosophila larvae* of superoxide dismutase 1 (Sod1) mutant alleles. X. XING*; A. UEDA; T. O'HARROW; C. WU. *Univ. of Iowa.*

9:00 G32 **297.22** Mechanisms underlying the neuroprotective effect of phosphofructokinase overexpression in ALS. S. LOGANATHAN*; E. MANZO; J. BARROWS; D. SHREINER; D. BARRAMEDA; I. LORENZINI; A. STARR; T. KOVALIK; R. BOWSER; R. SATTLER; D. ZARNESCU. *Univ. of Arizona, Barrow Neurolog. Inst., The Univ. of Arizona, The Univ. of Arizona.*

10:00 G33 **297.23** Postnatal selective elimination of slow-type motor neurons induces late-onset neuromuscular deficits in mice: Red muscle atrophy, posture abnormality and kinetic tremor. K. KAMISHIMA; T. KOYAMA; L. OHGAKI; T. YAMANAKA; S. ITOHARA; N. OGIHARA; S. SAWANO; W. MIZUNOYA; H. MISAWA*. *Fac. of Pharmacy, Keio Univ., Doshisha Univ. Grad. Sch. of Brain Scien, RIKEN Ctr. for Brain Sci. - Wako, The Univ. of Tokyo, Sch. of Life and Envrn. Science, Azabu Univ., Sch. of Vet. Medicine, Azabu Univ.*

POSTER

298. Mechanisms of Neurotoxicity I

Theme C – Neurodegenerative Disorders and Injury

Mon. 8:00 AM – *McCormick Place, Hall A*

8:00 G34 **298.01** Traffic related air pollution nanosized particulate matter shows batch differences in biological activity *in vitro* and *in vivo*. H. ZHANG*; A. HAGHANI; A. MOUSAVI; M. H. SOWLAT; M. CACCIOTTOLO; C. AGOSTINO; C. SIOUTAS; T. E. MORGAN; C. E. FINCH; H. FORMAN. *USC.*

9:00 G35 **298.02** Sex specific blood and cerebral cortex transcriptomic changes of prenatal exposure of mouse neonates. A. HAGHANI*; J. I. FEINBERG; K. LEWIS; C. LADD-ACOSTA; R. G. JOHNSON; C. SIOUTAS; C. E. FINCH; D. B. CAMPBELL; H. E. VOLK; T. E. MORGAN. *USC, Johns Hopkins Bloomberg Sch. of Publ. Hlth., Michigan State Univ., Michigan State Univ.*

10:00 G36 **298.03** Cerebral cortex transcriptome responses to BPN-15606, a novel gamma secretase modulator. C. D'AGOSTINO*; A. HAGHANI; M. CACCIOTTOLO; C. SIOUTAS; R. E. TANZI; T. E. MORGAN; S. WAGNER; C. E. FINCH. *USC, USC, Massachusetts Gen Hosp, Harvard Med. Sch., Univ. of California.*

11:00 G37 **298.04** Characterizing methamphetamine (METH)-induced lethal toxicity in 5 days post-fertilization (dpf) zebrafish (Danio rerio) larvae. Y. CHEN*; A. WISNER; F. WILLIAMS; F. S. HALL. *Univ. of Toledo, Univ. of Toledo, Univ. of Toledo Col. of Pharm. and Pharmaceut. Sci.*

8:00 G38 **298.05** Development and validation of a reproducible mouse model of intensive care unit delirium. M. ILLENDULA; B. FERRARESE; Z. ZUO; N. LUNARDI*. *Univ. of Virginia, Univ. of Padova.*

9:00 G39 **298.06** Neuroactive steroid CDNC24 is an effective gabaergic potentiator and a hypnotic that is not neurotoxic to the developing rat brain. V. TESIC*; S. M. JOKSIMOVIC; N. QUILLINAN; K. KRISHNAN; D. F. COVEY; S. M. TODOROVIC; V. JEVTOVIC-TODOROVIC. *Univ. of Colorado, Anschutz Med. Campus, Univ. of Colorado, Anschutz Med. Campus, Univ. of Colorado, Washington Univ. in St. Louis, Washington Univ. Sch. Med., Univ. of Colorado Anschutz Med. Campus, Univ. of Virginia Dept. of Anesthesiol.*

• Indicated a real or perceived conflict of interest, see page 150 for details.
▲ Indicates a high school or undergraduate student presenter.
* Indicates abstract's submitting author

10:00 G40 **298.07** Properties of excitatory synaptic currents in CA3 neurons following neonatal ketamine exposure. O. H. CABRERA*; N. QUILLINAN; S. M. TODOROVIC; V. JEVTOVIC-TODOROVIC. *Univ. of Colorado Anschutz Med. Campus.*

11:00 G41 **298.08** Isoflurane reduces brain-derived neurotrophic factor release with loss of dendritic spines. J. PLATHOLI*; K. W. JOHNSON; R. WILLIAMS; F. S. LEE; H. C. HEMMINGS, Jr. *Weill Cornell Med., Weill Cornell Med. Col., Weill Cornell Med.*

8:00 G42 **298.09** ● Evaluating human nerve conduction velocity *in vitro* as a novel metric for assessing chemotherapeutics-induced peripheral neuropathy. A. D. SHARMA*; L. MCCOY; E. JACOBS; M. TERRAL; L. CURLEY; M. J. MOORE. *Axosim, Inc., Tulane Univ.*

9:00 G43 **298.10** Activation of KCNQ channels prevents paclitaxel-induced peripheral neuropathy and associated neuropathic pain. J. LI; D. DANG; Q. Y. YANG*. *UTMB At Galveston.*

10:00 G44 **298.11** Cyclohexane inhalation produces long lasting alterations in the hippocampal integrity in the adult mouse. T. V. CAMPOS ORDONEZ*; D. ZARATE-LOPEZ; N. E. IBARRA CASTAÑEDA; E. LIRA-DIAZ; J. GUZMAN-MUÑIZ; N. MOY-LÓPEZ; J. BURITICÁ; O. GONZALEZ-PEREZ. *Univ. of Colima, Univ. of Colima, Univ. De Guadalajara.*

11:00 H1 **298.12** Plastic changes in dendritic spines of 3xTgAD mice prefrontal cortex, after iAs exposure. N. VÁZQUEZ-HERNÁNDEZ*; S. A. NIÑO; F. L. MARTÍN-AMAYA-BARAJAS; S. DIAZ-CINTRA; S. ZARAZUA; I. GONZÁLEZ-BURGOS*; M. E. JIMÉNEZ-CAPDEVILLE. *Inst. Mexicano del Seguro Social, Univ. Autónoma de San Luis Potosí, CIBO, IMSS, UNAM Campus Juriquilla, Chem. Faculty, UASLP.*

8:00 H2 **298.13** ▲ Kynurenine pathway metabolites involved in lead toxicity. D. RAMIREZ ORTEGA*; P. OVALLE RODRIGUEZ; G. R. ROLDAN; D. F. GONZALEZ ESQUIVEL; L. A. RAMOS; B. PINEDA OLVERA; V. PEREZ DE LA CRUZ. *Inst. Nacional De Neurologia y Neurocirugia "Manuel Velasco Suarez", Univ. Nacional Autonoma de Mexico, Inst. Nacional De Neurologia y Neurocirugia "Manuel Velasco Suarez".*

9:00 H3 **298.14** Metabolomics uncovers key neurorestorative pathways after dietary omega-3 polyunsaturated fatty-acid supplementation in participants with type 2 diabetes. A. DURAN*; J. CÂMARA; L. SALTO; A. BASU; I. PEREZ-PAQUIEN; W. BEESON; A. FIREK; Z. CORDERO-MACINTYRE; M. DE LEÓN. *Loma Linda Univ., Riverside Univ. Hlth. Syst. Med. Ctr.*

10:00 H4 **298.15** Effect of astrocytic insulin-like growth factor receptor deficiency on rodent behavior. D. PRABHU*; S. KHAN; K. BLACKBURN; E. HODGES; J. MARSHALL; N. M. ASHPOLE. *Univ. of Mississippi.*

11:00 H5 **298.16** Inducing neuroinflammatory states in reactive glia associated with neurodegenerative disease progression. Z. S. JORDAN*; K. THANGAMANI; C. HUTCHINSON; J. A. GOMEZ; A. M. MAROOF. *Univ. of Texas at San Antonio, Univ. of Texas San Antonio, Univ. of Texas at San Antonio, The Univ. of Texas at San Antonio, Univ. of Texas at San Antonio.*

8:00 H6 **298.17** Nucleocytoplasmic transport factors suppress TDP-43 aggregation and toxicity in ALS/FTD disease models. B. KHALIL*; G. FORTIN-NOUEL; C. SMITH; T. COMYN; C. CHOU; W. ROSSOLL. *Mayo Clin., Stanford Univ.*

9:00 H7 **298.18** Effects of prenatal methamphetamine exposure on neuronal morphology and synaptogenesis in hippocampal primary cell culture. H. BENYA-APHIKUL*; T. SOOKSAWATE; P. CHETPRAYOON; V. PONGRAKHANANON; R. RODSIRI. *Fac. of Pharmaceut. Sciences, Chulalongkorn Univ., Nanosafety and Risk Assessment, Natl. Nanotechnology Ctr.*

10:00 H8 **298.19** Alteration of dopamine homeostasis by organochlorine environmental agents. B. S. CAGLE*; R. A. CRAWFORD; H. LEHMLER; J. A. DOORN. *Univ. of Iowa.*

11:00 H9 **298.20** Mouse mutant SOD1 glia cause hyperexcitability of induced cortical projection neurons. J. A. GOMEZ*; Z. S. JORDAN; A. M. MAROOF. *Univ. of Texas at San Antonio, Univ. of Texas at San Antonio, Univ. of Texas at San Antonio.*

8:00 H10 **298.21** An adenosine augmentation compound (J4) attenuates abnormal tau phosphorylation in a cell model of tauopathy. P. CHUANG*; C. CHANG; Y. LIAO; Y. CHERN. *Academia Sinica, Academia Sinica.*

9:00 H11 **298.22** Pathological upregulation of adenosine A2A receptors exacerbates memory deficits in a mouse model of Alzheimer's disease. D. BLUM*; V. GOMEZ-MURCIA; K. CARVALHO; C. MERIAUX; R. CAILLIEREZ; M. DUMOULIN; S. BEGARD; M. WISZTORSKI; I. FOURNIER; N. DEGLON; A. BEMELMANS; M. HAMDANE; E. FAIVRE; L. BUEE. *Univ. Lille, Inserm, CHU Lille, UMR-S 1172 - JPArc, LabEx DISTALZ, Univ. Lille, Univ. Lille, Inserm, U1192-PRISM, Dept. of Clin. Neurosciences, Lab. of Neurotherapies and Neuromodulation (LNTM), Lausanne Univ. Hosp., CNRS, CEA, Paris-Sud Univ., Univ. Paris-Saclay, Neurodegenerative Dis. Lab. (UMR9199).*

POSTER

299. Alzheimer's Disease: Neurotoxicity, Inflammation, and Neuroprotection

Theme C – Neurodegenerative Disorders and Injury

Mon. 8:00 AM – *McCormick Place, Hall A*

8:00 H12 **299.01** VGF-derived peptide TLQP-21 modulates microglial function through C3aR1 signaling pathways and reduces neuropathology in 5xFAD mice. M. AUDRAIN*; F. EL GAAMOUCH; W. LIN; N. BECKMANN; C. JIANG; S. HARIHARAN; P. HEEGER; E. E. SCHADT; S. E. GANDY; M. E. EHRLICH; S. R. SALTON. *Icahn Sch. of Med. at Mount Sinai, Sun Yat-Sen Univ., Icahn Sch. of Med. at Mount Sinai, Icahn Sch. of Med. at Mount Sinai, Icahn Sch. of Med. at Mount Sinai.*

9:00 H13 **299.02** Frontal cortex neuroinflammatory alterations during the progression of Alzheimer's disease. M. MORENO-RODRIGUEZ*; M. NADEEM; S. PEREZ; E. MUFSON. *Barrow Neurolog. Inst.*

10:00 H14 **299.03** Role of MS4A4A M159V in myeloid cell response in Alzheimer's disease. K. P. MACPHERSON*; G. E. LANDRETH. *Indiana Univ. Sch. of Med.*

11:00 H15 **299.04** Neurodegenerative microglial activation exacerbated by astrocytes-driven oxidative stress and proinflammation in a human Alzheimer's disease brain model. Y. KANG*; H. CHUN; J. LEE; H. CHO. *Univ. of North Carolina at Charlotte, Univ. of North Carolina at Charlotte, Univ. of North Carolina at Charlotte, Univ. of North Carolina at Charlotte, Inst. of Basic Sci.*

• Indicated a real or perceived conflict of interest, see page 150 for details.
▲ Indicates a high school or undergraduate student presenter.
* Indicates abstract's submitting author

8:00 H16 **299.05** ▲ Repurposing drugs for modulating microglia mediated neuroinflammation in Alzheimer's disease. S. ALOE*; O. CHAUDRY; L. XIE; P. A. SERRANO; P. ROCKWELL; M. E. FIGUEIREDO-PEREIRA. *Hunter Col. of the City Univ. of New York, Hunter Col. of the City Univ. of New York, Hunter Col. of the City Univ. of New York, Hunter Col. of the City Univ. of New York.*

9:00 H17 **299.06** The expression changes of lncRNA associated with miRNA-101a in 5XFAD. Y. CHOI*; Y. LEE; D. LEE. *Seoul Natl. Univ. Hosp., Seoul Natl. Univ.*

10:00 H18 **299.07** Improved Alzheimer's disease models using neuronal and microglial live-cell analysis in 2D and 3D. S. L. ALCANTARA*; J. RAUCH; G. LOVELL; L. OUPICKA; J. TRIGG; A. OVERLAND; M. BOWE; N. HOLTZ; E. ENDSLEY; C. SCHRAMM; D. APPLEDORN; D. TREZISE; T. DALE. *Sartorius (Essen Bioscience), Sartorius (Essen Bioscience).*

11:00 H19 **299.08** ▲ Bioinformatics analysis of TILRR regulated gene activation patterns demonstrates primary effects on the PI3K-AKT-mTOR pathway and links with Alzheimer's disease and inflammation. B. POYNTER; P. R. HEATH*; E. QWANSTROM; J. COOPER-KNOCK. *Univ. of Sheffield, Univ. of Sheffield, Univ. of Sheffield.*

8:00 H20 **299.09** Role of pyruvate kinase M2 in microglia-mediated neuropathology in Alzheimer's disease. Y. LIU*; G. C. DOS SANTOS, Jr.; J. C. RYU; R. BRUSCHWEILER; L. BRUSCHWEILER-LI; S. O. YOON. *Ohio State Univ., Ohio State Univ.*

9:00 H21 **299.10** ▲ Lysine demethylase 4 inhibitors block TNF alpha-induced adhesion protein expression in human brain microvascular endothelial cells. S. A. JO*; J. KO. *Dankook Univ., Cheonana.*

10:00 H22 **299.11** ● Development of a systems biology platform to enable drug discovery for neuroinflammatory Alzheimer's disease. L. H. MARTENS*; R. NUNES; K. C. LARSON; M. MARCONI; C. D. DEJESUS; T. MILLER; J. M. LEVENSON; B. TATE. *Tiaki Therapeut.*

11:00 H23 **299.12** Interactions between amyloid beta (Aβ) and NLRP3 inflammasome proteins. N. J. MAKONI*; E. GARRAD; S. GROVER; M. R. NICHOLS. *Univ. of Missouri-St. Louis.*

8:00 H24 **299.13** Neuroprotective role of quinic acid and its derivatives in phytohaemagglutinin (PHA)-induced Aβ toxicity in SH-SY5Y cells. K. RAFI*; S. HUSSAIN; S. FAIZI; S. SIMJEE. *Intl. Ctr. For Chem. and Biol. Sci., Intl. Ctr. For Chem. and Biol. Sci.*

9:00 H25 **299.14** Early astrocytic alterations and loss of TREM2 are associated to cerebral amyloid antipathy. X. TAYLOR*; P. CISTERNAS; Y. YOU; A. PERKINS; Y. YOU; S. XIANG; J. ZHANG; A. OBLAK; R. VIDAL; C. A. LASAGNA-REEVES. *Indiana Univ. Sch. of Med., Indiana Univ. Sch. of Med., Indiana Univ. Sch. of Med., Indiana Univ. Sch. of Med., Indiana Univ. Sch. of Med., Indiana Univ. Schoolf of Med., Indiana Univ. Sch. of Med., Indiana Univ. Sch. of Med., Indiana Univ. Sch. of Med.*

10:00 H26 **299.15** Role of TLR signaling pathways in systemic inflammation and Alzheimer's disease. J. YANG*; B. DIDIER; L. WISE; K. FUKUCHI. *Univ. of Illinois Col. of Med. at Peoria.*

11:00 H27 **299.16** Microglial activation and cognitive decline in a new rat model of Alzheimer's disease. L. E. BAQUEDANO SANTANA*; R. E. AQUINO ORDINOLA; M. FORERO; N. MIRANDA; L. AGUILAR MENDOZA. *Univ. Peruana Cayetano Heredia, Ctr. de Biophysique Moléculaire, CNRS UPR4301, Orléans, France, Univ. de Ibagué, Univ. Peruana Cayetano Heredia.*

8:00 H28 **299.17** Periodontal disease modifies the neuroinflammatory process in a mouse model of Alzheimer's disease. A. KANTARCI*; C. TOGNONI; W. YAGHMOOR; A. MARGHALANI; D. STEPHENS; J. AHN; I. CARRERAS; A. DEDEOGLU. *Forsyth Inst., VA Boston Healthcare Syst., Boston Univ. Sch. of Med., Boston Univ. Sch. of Med., Massachusetts Gen. Hosp. and Harvard Med. Sch.*

9:00 H29 **299.18** Gut microbiome alterations and bacteria derived components in Alzheimer's disease. A. CATTANEO*; S. PROVASI; N. LOPIZZO; C. PARIANTE. *IRCCS Fatebenefratelli, IRCCS Ctr. Fatebenefratelli, IRCCS Fatebenefratelli Ctr., King's Col. London.*

10:00 H30 **299.19** The astrocyte circadian clock regulates amyloid beta deposition and degradation. C. MCKEE*; B. V. LANANNA; J. BASAK; E. S. MUSIEK. *Washington Univ. In St Louis, Washington Univ. in St Louis, Washington Univ. in St Louis, Washington Univ. In St. Louis.*

11:00 H31 **299.20** TNFR2 overexpression in astrocytes attenuates Alzheimer-like pathology in Alzheimer's disease mouse models. D. LI; Z. CHEN*; Y. SHEN. *Univ. of Sci. and Technol. of China.*

8:00 H32 **299.21** Evaluation of inflammatory signaling in a novel $GABA_B$ receptor knockout mouse model. A. M. LEISGANG*; A. M. SALAZAR; A. A. ORTIZ; J. W. KINNEY. *Univ. of Nevada Las Vegas, Univ. of Nevada Las Vegas.*

9:00 H33 **299.22** BACE1 expression and function in T cells from mice and human. L. DAI*; Y. SHEN. *Univ. of Sci. and Technol. of China.*

10:00 H34 **299.23** ● Gene expression analysis of neuroinflammation markers in aged neurodegenerative disease transgenic mouse models. B. A. JENKINS*; T. A. DAY; D. C. AIREY; F. D. TINGLEY, III; L. K. THOMPSON; M. L. HAYASHI. *Eli Lilly & Co., Eli Lilly & Co./Llc, Eli Lilly and Co., Eli Lilly & Co.*

11:00 H35 **299.24** ● Impact of R47H variant of TREM2 on tau pathology and neurodegeneration in Alzheimer's disease. M. GRATUZE*; C. E. LEYNS; R. HOYLE; E. KIM; M. MANIS; M. COLONNA; J. D. ULRICH; D. M. HOLTZMAN. *Washington Univ. in St Louis, Merck, Washington Univ. Sch. of Med., Washington Univ., Washington Univ. of St Louis, Washington Univ.*

8:00 H36 **299.25** Small molecule rhynchophylline inhibits immune/inflammatory responses in a transgenic mouse model of Alzheimer's disease. W. FU*; B. BUTT; K. HUNG; W. YUEN; F. C. F. IP; A. K. Y. FU; N. Y. IP. *Div. of Life Science, Mol. Neurosci. Center, and State Key Lab. of Mol. Neurosci.*

9:00 H37 **299.26** Non-invasive *in vivo* imaging of inflammasome activation enables rapid and spatiotemporal detection of Alzheimer's disease. E. YANG*; Y. KO; J. LEE; N. JANG; Y. JEON; J. YU; N. CHO; I. KWON; H. KIM. *Seoul Natl. Univ. Col. of Med., Korea Inst. of Sci. and Technol. (KIST), Yonsei Univ. Col. of Med.*

10:00 H38 **299.27** Neuronal SphK1 acetylates COX2 and contributes to pathogenesis in a model of Alzheimer's disease. H. JIN*; J. LEE; S. HAN; K. PARK; I. JUNG; H. KIM; J. BAE. *Kyungpook Natl. Univ., Kyungpook Natl. Univ., Hanyang Univ.*

- ● Indicated a real or perceived conflict of interest, see page 150 for details.
- ▲ Indicates a high school or undergraduate student presenter.
- * Indicates abstract's submitting author

11:00 H39 **299.28** Interleukin 1 beta mediated inflammation in a tau depositing mouse model. A. S. SOLIMAN*; M. M. ALHADIDY; D. J. FINNERAN; K. R. NASH; D. G. MORGAN; M. N. GORDON. *Michigan State Univ., Univ. of South Florida, Michigan State Univ., Michigan State Univ. GRRC.*

8:00 H40 **299.29** Deletion of hematopoietic cell kinase exacerbates amyloid-beta deposits, pre-synaptic protein loss and microglial dysfunction in Tg2576 mice. S. LIM*; D. N. TRAN; C. CHEN; M. KITAZAWA. *Univ. of California, Irvine, Univ. of California, Merced.*

9:00 H41 **299.30** Investigating the relationship between intestinal immune responses and amyloid-beta induced deficits. T. HSIEH*; H. CHIANG. *Natl. Cheng Kung Univ., Natl. Cheng Kung Univ.*

POSTER

300. Traumatic Brain Injury: Models, Mechanisms, and Recovery

Theme C – Neurodegenerative Disorders and Injury

Mon. 8:00 AM – *McCormick Place, Hall A*

8:00 H42 **300.01** Characterizing a scalable blunt-force traumatic brain injury model and the injury-induced regeneration in the adult zebrafish. J. HENTIG*, Jr; M. LAHNE; K. CLOGHESSY; D. R. HYDE. *Univ. of Notre Dame.*

9:00 H43 **300.02** The olfactory bulb of zebrafish regenerates and recovers by 21 days after an excitotoxic focal lesion. E. CALVO-OCHOA*; C. A. BYRD-JACOBS. *Western Michigan Univ.*

10:00 H44 **300.03** *Ex-vivo* modelling of traumatic brain injury using porcine brain tissue. B. HOFFE*; A. MAZURKIEWICZ; T. PIEHLER; R. BANTON; O. PETEL; M. R. HOLAHAN. *Carleton Univ., Carleton Univ., US Army Res. Lab.*

11:00 H45 **300.04** Aberrant signal transduction in a novel model of rotational acceleration traumatic brain injury. A. UMFRESS*; D. EPSTEIN; A. CHAKRABORTI; A. NATARAJAN; K. HENSLEY; J. A. BIBB. *Univ. of Alabama at Birmingham, Univ. of Alabama at Birmingham, Univ. of Nebraska Med. Ctr., Univ. of Toledo Med. Ctr.*

8:00 H46 **300.05** D-amino acid transporters regulate synaptic damage following traumatic brain injury. S. A. TAPANES*; E. J. PEREZ; M. L. CEPERO; D. J. LIEBL. *Univ. of Miami Miller Sch. of Med.*

9:00 I1 **300.06** Sexual dimorphic dysregulation in the hypothalamic-pituitary-adrenal axis after brain injury. S. W. RIDGWAY; Z. E. SWANN; C. E. HAIR; R. ROWE; T. C. THOMAS*. *Univ. of Arizona Col. of Med. Phoenix, Oberlin Col.*

10:00 I2 **300.07** Acute and subacute axonal, neuronal and behavioral changes following repetitive mild traumatic brain injury. H. ISMAIL; L. NASRALLAH; F. KOBEISSY; H. J. DARWISH*. *American Univ. of Beirut, American Univ. of Beirut, American Univ. of Beirut, American Univ. of Beirut.*

11:00 I3 **300.08** The effect of binge alcohol and traumatic brain injury on hippocampal neural precursor cell proliferation and survival. S. T. TON*; S. TSAI; J. Y. WU; J. P. GERLING; R. P. NOCKELS; G. L. KARTJE. *Edward Hines Junior VA Hosp., Loyola Univ. Med. Ctr.*

8:00 I4 **300.09** ● Predator odor exposure exacerbates traumatic brain injury outcomes in rats. E. A. FUCICH*; Z. F. STIELPER; S. F. MOZINGO; N. W. GILPIN; P. E. MOLINA. *Louisiana State Univ. Hlth. Sci. Ctr.*

9:00 I5 **300.10** Reductions in hippocampal SNARE protein in heterozygous cysteine-string protein alpha knock-out mice after traumatic brain injury. S. W. CARLSON*; D. EDINBORO; Y. LI; J. HENCHIR; C. DIXON. *Univ. of Pittsburgh.*

10:00 I6 **300.11** Sex differences in cognitive deficits following repetitive mild TBI in adolescent rats. T. A. MCCORKLE; L. L. GIACOMETTI; S. KHURANA; R. RAGHUPATHI*. *Drexel Univ. Col. of Med.*

11:00 I7 **300.12** ▲ Pain (nociceptive) input increases lesion site hemorrhage after traumatic brain injury. P. BEAN*; M. K. HENWOOD; D. T. JOHNSTON; J. W. GRAU. *Texas A&M Univ.*

8:00 I8 **300.13** Spreading depolarizations in mild traumatic brain injuries: Blood flow, behavior, cognition, and attention. C. J. MEHOS; H. ZHANG; J. M. PACHECO; C. STRATTON; A. HINES-LANHAM; R. A. MORTON*. *Univ. of New Mexico, Univ. of New Mexico.*

9:00 I9 **300.14** Deciphering the cerebrovascular link between traumatic brain injury and Alzheimer's disease. Y. WU*; J. ZENG. *USC, USC.*

10:00 I10 **300.15** Long term spatial learning deficits after mild traumatic brain injury. N. L. EMMITT*; V. D. KRISHNA; A. CRANE; M. CHROSTEK; A. W. GRANDE; W. C. LOW; M. C. CHEERAN. *Univ. of Minnesota, Univ. of Minnesota, Univ. of Minnesota, Univ. of Minnesota.*

11:00 I11 **300.16** The point mutation of the C152 site in ubiquitin C-terminal hydrolase L1 attenuates axonal injury and promotes functional recovery in mice after traumatic brain injury. Z. MI*; H. LIU; M. E. ROSE; X. MA; E. C. DIXON; S. H. GRAHAM. *Univ. of Pittsburgh, VA Pittsburgh Healthcare Syst., Univ. of Pittsburgh, Univ. of Pittsburgh.*

8:00 I12 **300.17** Aged rats have an altered immune response and worse outcomes after traumatic brain injury. M. SUN*; R. BRADY; P. CASILLAS-ESPINOSA; D. WRIGHT; B. SEMPLE; S. MCDONALD; R. MYCHASIUK; H. KIM; C. SOBEY; T. O'BRIEN; A. VINH; S. SHULTZ. *Monash Univ., The Univ. of Melbourne, La Trobe Univ.*

9:00 I13 **300.18** Entinostat improves acute neurological outcomes after intracerebral hemorrhage. S. SUKUMARI RAMESH*; F. BONSACK. *1120 15TH STREET.*

10:00 I14 **300.19** Is oxytocin effective in ameliorating the social deficits of neonate traumatic brain-injured rats in adolescence and adulthood? A. M. RUNYAN; D. LENGEL; J. W. HUH*; R. RAGHUPATHI. *Drexel Univ., Drexel Univ., Children's Hosp. of Philadelphia, Drexel Univ. Col. of Med.*

11:00 I15 **300.20** Testosterone recovers chronic vestibular impairment following repeat mild traumatic brain injury. A. SEGISMUNDO*; E. WESTFALL; A. BOLDUAN; D. G. WALLACE; D. A. KOZLOWSKI; E. B. STUBBS; E. FOECKING. *Loyola Univ. of Chicago, Northern Illinois Univ., DePaul Univ., Edward Hines Jr. VA.*

8:00 I16 **300.21** Snake venom pre-conditioning attenuates neuroinflammation and intraoperative hemorrhage via PLA2/5LOX/LTC4 synthase cascade and PLA2/COX1/TXA2 cascade respectively in a surgical brain injury rat model. Z. D. TRAVIS*; P. SHERCHAN; W. KELLN; W. K. HAYES; A. COOPER; J. H. ZHANG. *Loma Linda Univ. Children's Hosp., Loma Linda Univ. Hlth., Loma Linda Univ. Hlth., Loma Linda Univ. Hlth.*

- ● Indicated a real or perceived conflict of interest, see page 150 for details.
- ▲ Indicates a high school or undergraduate student presenter.
- * Indicates abstract's submitting author

9:00 I17 **300.22** ● Melanocortin agonist reduces microglial activation and neuroinflammation following experimental traumatic brain injury. L. SIEBOLD*; J. ABDALA; B. TONE; B. BARTNIK-OLSON; B. HOLSHOUSER; J. FIGUEROA; S. ASHWAL; C. G. WILSON. *Loma Linda Univ., Loma Linda Univ., Loma Linda Univ., Loma Linda Univ.*

10:00 I18 **300.23** The effects of injury and exosome treatment on biophysical and structural properties of pyramidal neurons in primate premotor cortex. M. MEDALLA*; W. CHANG; S. CALDERAZZO; V. GO; A. TSOLIAS; J. GOODLIFFE; D. PATHAK; S. E. BUSCH; D. DEALBA; D. L. ROSENE; B. BULLER; T. L. MOORE. *Boston Univ. Sch. of Med., Henry Ford Hlth. Syst.*

11:00 I19 **300.24** Mesenchymal derived exosomes enhance recovery of motor function in a monkey model of cortical injury. T. L. MOORE*; V. GO; M. A. PESSINA; B. G. E. BOWLEY; M. L. COVERT; M. MEDALLA; S. CALDERAZZO; Z. ZHANG; M. CHOPP; S. P. FINKLESTEIN; A. G. HARBAUGH; D. L. ROSENE; B. BULLER. *Boston Univ. Sch. of Med., Boston Univ. Sch. of Med., Henry Ford Hlth. Syst., Biotrofix, Inc, Boston Univ.*

8:00 I20 **300.25** Electrophysiologic analysis of excitation/inhibition balance in the ventral hippocampus-medial prefrontal cortex circuit following traumatic brain injury. K. M. BEST*; H. METHENY; A. S. COHEN. *Perelman Sch. of Medicine, Univ. of Pennsylvania, Children's Hosp. of Philadelphia, Children's Hosp. of Philadelphia, Perelman Sch. of Medicine, Univ. of Pennsylvania.*

9:00 I21 **300.26** Cerebral dopamine neurotrophic factor in zebrafish brain repair after traumatic brain injury. S. SHARIFULINA*; S. SEMENOVA; Y. CHEN; P. PANULA. *Univ. of Helsinki, Univ. of Helsinki.*

10:00 I22 **300.27** Assessing the behavioral effects of proton irradiation and polyphenol supplementation on a high throughput fruit fly model of traumatic brain injury. T. A. TOGASHI*; A. D. TROFIMOVA; C. BARCENAS; W. HARDEMAN; M. HANNA; S. LOONG; M. WHITE; V. WATTS; G. A. NELSON; R. E. HARTMAN. *Loma Linda Univ.*

11:00 I23 **300.28** Exploring the effects of prophylactic & therapeutic dietary polyphenol treatments on traumatic brain injury outcomes in *Drosophila melanogaster.* B. E. TOLAN*; A. D. TROFIMOVA; R. E. HARTMAN. *Loma Linda Univ.*

8:00 I24 **300.29** Differential expression of estrogen-metabolizing enzymes following traumatic brain injury in adult male and female zebra finches. K. A. DUNCAN*. *Vassar Col.*

POSTER

301. Peripheral Nerve Injury

Theme C – Neurodegenerative Disorders and Injury

Mon. 8:00 AM – *McCormick Place, Hall A*

8:00 I25 **301.01** The MAP1B phosphorylation sites specifically localized in the developing brain and in the regenerating peripheral nerves. Y. ISHIKAWA*; M. OKADA; A. HONDA; Y. ITO; A. TAMADA; N. ENDO; M. IGARASHI. *Niigata Univ. Grad Sch. of Med. and Dent. Sci., Niigata Univ. Grad Sch. of Med. and Dent. Sci., Brain Res. Institute, Niigata Univ., Kansai Med. Univ.*

9:00 I26 **301.02** ● An advanced nerve guidance conduit for repairing large peripheral nerve defects. Z. KOCI*; A. J. HIBBITTS; S. L. KNEAFSEY; L. ZILIC; G. CHEN; C. T. BUCKLEY; S. J. ARCHIBALD; F. J. O'BRIEN. *Royal Col. of Surgeons In Ireland, Trinity Col. Dublin, Advanced Materials and Bioengineering Res. Ctr. (AMBER), Royal Col. of Surgeons In Ireland, Integra Lifesciences.*

10:00 I27 **301.03** Long term neurological effects of acute exposure to a low or mild dose of sarin surrogate. K. THIBAULT*; S. FRANCOIS; J. KNOERTZER; R. BEL; G. DAL BO. *IRBA, IRBA.*

11:00 I28 **301.04** Schwann cell response to sustained release of fingolimod from fibrous biomaterials. D. L. PUHL*; J. L. FUNNELL; A. R. D'AMATO; J. BAO; D. MORONE; Y. PRESSMAN; A. E. HAGGERTY; M. OUDEGA; R. J. GILBERT. *Rensselaer Polytechnic Inst., Univ. of Miami Miller Sch. of Med., Univ. of Miami Miller Sch. of Med., Bruce W. Carter Dept. of Veterans Affairs Med. Ctr.*

8:00 DP05/I29 **301.05** (Dynamic Poster) Improving sensory function by utilizing vagus nerve stimulation after peripheral nerve injury. M. J. DARROW*; T. MIAN; M. TORRES; Z. HAIDER; E. MEYERS; M. ROMERO-ORTEGA; M. KILGARD; S. HAYS. *Univ. of Texas At Dallas, Univ. of Texas At Dallas.*

9:00 I30 **301.06** Peripheral nerve repair with magnesium metal filaments and magnesium salts. X. AN*; T. M. HOPKINS; C. THAPA; L. MAILE; K. J. LITTLE; D. B. HOM; S. K. PIXLEY. *Univ. of Cincinnati, Cincinnati Children's Hosp. Med. Ctr., Univ. of Cincinnati, Univ. of Cincinnati, Cincinnati Children's Hosp. Med. Ctr., Univ. of California San Diego Med. Ctr., Univ. Cincinnati Col. Med.*

10:00 I31 **301.07** Influence of pannexin1 knockout on peripheral nerve regeneration. E. OROZCO; S. ADACHI; H. P. MAKARENKOVA; S. B. SHAH*. *UCSD, Scripps Res., UCSD.*

11:00 I32 **301.08** Evaluating vagus nerve stimulation paired with rehabilitation for sensory and motor dysfunction after radial nerve injury. K. S. ADCOCK*; T. DANAPHONGSE; Z. HAIDER; M. TORRES; R. A. MORRISON; S. A. HAYS; M. P. KILGARD. *Univ. of Texas at Dallas, Univ. of Texas at Dallas, Univ. of Texas at Dallas.*

8:00 I33 **301.09** Inosine enhances the regeneration and anticipates the functional recovery after sciatic nerve crush injury in mice. F. S. S. CARDOSO; R. CARDOSO; B. S. RAMALHO; T. B. TABOADA; A. S. NOGUEIRA; A. B. MARTINEZ; F. M. ALMEIDA*. *UFRJ.*

9:00 I34 **301.10** ▲ Single-unit recording reveal increased conduction delay and reversible conduction block in peripheral nerve axons undergoing tensile stretch. N. GANESHBABU*; T. GUO; L. CHEN; B. FENG. *Univ. of Connecticut, Univ. of Connecticut.*

10:00 I35 **301.11** The transmembrane protein Raw promotes Wallerian degeneration in *Drosophila* by restraining a protective JNK signaling pathway. T. WALLER*; Y. HAO; C. A. COLLINS. *Univ. of Michigan.*

11:00 I36 **301.12** Tissue nano-transfection drives localized delivery of therapeutics to the peripheral or central nervous system in a minimally invasive manner. J. T. MOORE*; N. HIGUITA-CASTRO; C. G. WIER; S. J. KOLB; I. VALERIO; D. GALLEGO-PEREZ. *The Ohio State Univ., The Ohio State Univ., The Ohio State Univ. Wexner Med. Ctr., The Ohio State Univ. Wexner Med. Ctr.*

- ● Indicated a real or perceived conflict of interest, see page 150 for details.
- ▲ Indicates a high school or undergraduate student presenter.
- * Indicates abstract's submitting author

8:00 I37 **301.13** Rapid depletion of the ESCRT protein Vps4 underlies injury-induced autophagic impediment and Wallerian degeneration. H. WANG; K. ZHANG; Q. WANG; S. ZHANG; Y. (. FANG*. *SIOC, Chinese Acad. of Sci.*

9:00 I38 **301.14** Integrin protects nociceptive neurons in models of paclitaxel-mediated peripheral sensory neuropathy. G. J. SHIN*; M. PERO; L. HAMMOND; A. BURGOS; A. KUMAR; F. BARTOLINI; W. B. GRUEBER. *Columbia Univ., Columbia Univ., Columbia Univ.*

POSTER

302. Neural Injury and Treatment

Theme C – Neurodegenerative Disorders and Injury

Mon. 8:00 AM – *McCormick Place, Hall A*

8:00 I39 **302.01** Antiallodynic effect of GPR55 and GPR119 receptors in processing neuropathic pain in rat. A. ZUÑIGA*; H. ROCHA-GONZALEZ; F. FLORES-MURRIETA; J. REYES-GARCIA. *ESM-IPN, INER.*

9:00 I40 **302.02** Blood-glutamate scavenging: An effective neuroprotective treatment in spinal cord injury model. A. MATUZANY-RUBAN*; Y. GOLDSHMIT; E. BANIAS. *Tel Aviv Univ., Tel Aviv Univ., Tel Aviv Univ.*

10:00 I41 **302.03** ▲ Targeting HIF1a for axon regeneration. P. J. WARD*; Z. HASSAN; K. CAMPBELL; C. WYNANS; S. WARIYAR; O. MISTRETTA. *Emory Univ. Sch. of Med., Emory Univ. Col. of Arts and Sci.*

11:00 I42 **302.04** Neuroprotection and immunomodulation by dimethyl fumarate after ventral root avulsion and reimplantation. P. R. KEMPE*; G. B. CHIAROTTO; B. BARRAVIERA; R. S. FERREIRA, Jr; A. L. OLIVEIRA. *Univ. of Campinas, São Paulo State Univ.*

8:00 I43 **302.05** The efficacy of C5a receptor antagonist for human iPSC-derived neural stem/progenitor cell transplantation in the injured spinal cord of mice. R. SHIBATA*; N. NAGOSHI; M. KHAZAEI; M. G. FEHLINGS; M. MATSUMOTO; H. OKANO; M. NAKAMURA. *Dept. of Orthopaedic Surgery, Keio Univ. Sch. of Med., Dept. of Physiology, Keio Univ. Sch. of Med., Krembil Res. Institute, Univ. Hlth. Netw.*

9:00 I44 **302.06** TRPV4 instigate endothelial disruption and secondary damage in spinal cord injury. H. KUMAR*; I. HAN. *CHA Univ., CHA Univ.*

10:00 J1 **302.07** The success of onabotulinumtoxina in treating neurogenic bladder after spinal cord injury: Mechanisms beyond SNAP-25 cleavage. R. OLIVEIRA*; S. CHAMBEL; F. CRUZ; C. D. CRUZ. *Faculdade de Medicina da Univ. do Porto, Inst. de Investigação e Inovação em Saúde, Faculdade de Medicina da Univ. do Porto, Hosp. São João.*

11:00 J2 **302.08** Targeting intra-axonal RyR and IP_3R mediated Ca^{2+}reduces secondary axonal degeneration following a contusive-SCI *in vivo.* B. C. OREM*; A. RAJAEE; D. P. STIRLING. *Univ. of Louisville, Univ. of Louisville, KSCIRC, Univ. of Louisville.*

8:00 J3 **302.09** Chemogenetic modulation of afferents via DREADDs affects kinematics in a rat contusion model of SCI. K. M. KEEFE*; J. T. EISDORFER; T. HALLOWELL; O. HAJI-MAGHSOUDI; K. M. RAUSCHER; G. M. SMITH; M. LEMAY; A. J. SPENCE. *Temple Univ., Children's Hosp. of Philadelphia, Univ. of Pennsylvania, Temple Univ.*

9:00 J4 **302.10** Neuroprotective effect of sodium propionate in neuroinflammation models. I. PATERNITI*; M. LANZA; G. CASILI; A. FILIPPONE; M. CAMPOLO; S. CUZZOCREA; E. ESPOSITO. *Univ. of Messina.*

10:00 J5 **302.11** Nimodipine prevents the development of spasticity after spinal cord injury by blocking Ca_V 1.3 calcium channels. M. MARCANTONI; P. LOW; A. FUCHS; O. KIEHN; C. BELLARDITA*. *Neurosci. Dept., Neurosci. Dept.*

11:00 J6 **302.12** ● The neurokinin 2 receptor agonist [Lys^5,$MeLEU^9$,Nle^{10}]-$NKA_{(4-10)}$ produces urination and defecation in rats: Involvement of neurokinin 1 and neurokinin 2 receptors. J. B. COOK*; R. PIATT; L. MARSON. *Dignify Therapeut.*

8:00 J7 **302.13** The fatty acide amide hydrolase inhibitor, PF-3845, attenuates inflammation and improves functional recovery in mice with spinal cord injury. M. L. LANZA*; G. CASILI; A. FILIPPONE; M. CAMPOLO; I. PATERNITI; S. CUZZOCREA; E. ESPOSITO. *Univ. of Messina.*

9:00 J8 **302.14** Pharmacological induction of oxidative metabolism enhances neural differentiation and recovery after spinal cord injury. S. DOLCI*; G. MARTANO; G. FIERABRACCI; S. ZORZIN; R. ZAMFIR; E. BOTTANI; P. DELFINO; M. DI CHIO; M. MATTIOLI; A. BACHI; D. BRUNETTI; M. RAGNI; P. BOSSOLASCO; D. BARDELLI; V. CORBO; E. NISOLI; A. VALERIO; G. F. FUMAGALLI*; F. BIFARI; I. DECIMO. *Univ. of Verona, IFOM the FIRC Inst. of Mol. Oncology, Div. of Pharmacology, Univ. of Brescia, Univ. of Milan, Univ. of Milan, IRCCS Inst. Auxologico Italiano, Univ. of Brescia, Univ. of Verona.*

10:00 J9 **302.15** Mitochondrial uncoupling with 2,4-dinitrophenol exerts age dependent effects after spinal cord injury. A. N. STEWART*; K. E. MCFARLANE; H. J. VEKARIA; W. M. BAILEY; B. ZHANG; S. P. PATEL; P. G. SULLIVAN; J. C. GENSEL. *Univ. of Kentucky, Univ. of Kentucky.*

11:00 J10 **302.16** Targeting alpha-tubulin acetylation to promote neurite outgrowth and functional recovery after injury. V. WONG*; C. PICCI; M. SWIFT; M. LEVINSON; D. GOLDBERG; A. SAUVE; B. LANGLEY; D. WILLIS. *Burke Neurolog. Inst. at Weill Cornell Med., Univ. of Waikato, Drexel Univ., New York Univ., Weill Cornell Med., Univ. of Waikato, Burke Neurolog. Inst. at Weill Cornell Med.*

8:00 J11 **302.17** Development of SOX9 antagonists for the treatment of neurological injuries. T. HRYCIW*; N. M. GEREMIA; M. DINUNZIO; B. URQUHART; A. BROWN. *Western Univ., Western Univ.*

9:00 J12 **302.18** Enhancing KCC2 activity reduces development of spasticity after spinal cord injury. J. N. BILCHAK*; K. YEAKLE; G. CARON; M. COTE. *Drexel Univ.*

10:00 J13 **302.19** Testing combinatorial treatments of promising FDA approved neuro-protective drug candidates in a cervical hemi-contusion model of rats. W. PLUNET*; N. JANZEN; J. LIU; E. RAFFAELE; S. KAMAKARI; O. SEIRA; K. KOLE; Y. JIANG; L. MCPHAIL; W. TETZLAFF. *Univ. of British Columbia.*

11:00 J14 **302.20** Evaluation of cABC delivery methods on the response of oligodendroglia after spinal cord injury. D. J. OSTERHOUT*; J. R. SIEBERT; A. CHENG; B. AHMAD. *Upstate Med. Univ., Slippery Rock Univ., Upstate Med. Univ.*

Mon. AM

- • Indicated a real or perceived conflict of interest, see page 150 for details.
- ▲ Indicates a high school or undergraduate student presenter.
- * Indicates abstract's submitting author

8:00 J15 **302.21** Survival of human stem cell-derived motor neurons in a non-human primate model of chronic conus medullaris/cauda equina spinal cord injury. N. P. BISCOLA*; J. H. NIETO; R. DATTA; M. C. CONDRO; P. MEERA; D. MOORE; N. ZHANG; M. OHLSSON; K. A. REIMANN; K. L. CHRISTE; B. G. NOVITCH; H. I. KORNBLUM; L. A. HAVTON. *UCLA, UCLA, UCLA, Karolinska Inst. and Karolinska Univ. Hosp., Univ. of Massachusetts Med. Sch., California Natl. Primate Res. Ctr. at UC Davis, UCLA, UCLA.*

9:00 J16 **302.22** ● Evaluation of the immunomodulatory effect of peptides in rats with traumatic spinal cord injury. J. VILCHIS VILLA; D. PARRA VILLAMAR; A. IBARRA; L. BLANCAS ESPINOZA; J. TOSCANO ZAPIEN; E. GARCÍA VENCES; R. H. RODRIGUEZ BARRERA; A. FLORES ROMERO; R. S. GARCÍA*. *Inst. Mexicano Del Seguro Social, Hosp. de Pediatría, UIMI, Univ. Anahuac-Centro De Investigacion Camina, Univ. Autónoma Metropolitana Iztapalapa.*

10:00 J17 **302.23** Modulation of enhancer of zester homolog 2 (EZH2) activity promotes innate inflammatory response alteration and leads to tissue regeneration and better motor function recovery after rat spinal cord injury. F. F. CORREIA*; B. C. MORENA; F. R. C. GONÇALVES; V. PASCHON; A. H. KIHARA. *UFABC, Univ. Federal Do ABC.*

POSTER

303. Spinal Cord Injury and Plasticity: Neurophysiology

Theme C – Neurodegenerative Disorders and Injury

Mon. 8:00 AM – *McCormick Place, Hall A*

8:00 J18 **303.01** Effect of clozapine-N-oxide (CNO) on H-reflex of naive female Sprague Dawley rats. J. T. EISDORFER*; K. M. KEEFE; K. M. RAUSCHER; G. M. SMITH; M. A. LEMAY; A. J. SPENCE. *Temple Univ., Temple Univ.*

9:00 J19 **303.02** Differential effects of low frequency (0.2 Hz) and high frequency (20Hz) spinal electromagnetic stimulation in modulating parameters of H-reflex responses in chronic spinal cord injured rats. L. LIANG*; H. A. PETROSYAN; S. A. SISTO; V. L. ARVANIAN. *Stony Brook Univ., Northport Veterans Affairs Med. Ctr., Univ. at Buffalo, Stony Brook Univ.*

10:00 J20 **303.03** Repetitive paired brain and spinal cord stimulation strengthen spared circuits and reduces hyperreflexia after cervical spinal cord injury. A. PAL*; A. RAMAMURTHY; H. PARK; T. BETHEA; A. GARCIA-SANDOVAL; S. RATNADURAI-GIRIDHARAN; W. VOIT; J. B. CARMEL. *Columbia Univ. Med. Ctr., The Univ. of Texas at Dallas, Burke Neurolog. Inst.*

11:00 J21 **303.04** Delayed implantation of neural stem cells (NSCs) combined with spinal electro-magnetic stimulation (SEMS) and exercise training in chronic spinal cord injured rats. V. L. ARVANIAN*; P. J. HORNER; R. C. KRENCIK; L. LIANG; N. BALLAS; K. LASEK; S. GUMUDAVELLI; V. ALESSI; H. PETROSYAN. *Norhtport VAMC, Stony Brook Univ., Houston Methodist Res. Inst., Stony Brook Univ.*

8:00 J22 **303.05** Hyperexcitation in mouse sympathetic neurons after spinal cord injury. K. TIAN; Y. LI; M. L. MCKINNON; S. HOCHMAN*; A. A. PRINZ. *Emory Univ., Emory Univ., Emory Univ. Sch. Med.*

9:00 J23 **303.06** Electrophysiological mechanisms underlying cervical epidural stimulation in adult rats. P. D. SHARMA*; P. TENDOLKAR; P. SHAH. *Stony Brook Univ.*

10:00 J24 **303.07** Serotonin supersensitivity and injury severity contribution to spasm intensity in chronic spinal cord injury. O. A. SHELTON*; V. M. TYSSELING; M. JIANG; D. BIRCH. *Northwestern Univ., Northwestern Univ., Northwestern Univ.*

11:00 J25 **303.08** Mapping cerebrovascular reactivity in response to breath-hold task after spinal cord injury: A functional near-infrared spectroscopy study. K. KARUNAKARAN*; N. D. CHIARAVALLOTI; B. B. BISWAL. *Boston Children's Hosp., Rutgers Grad. Sch. of Biomed. Sci., Harvard Med. Sch., Kessler Fndn., New Jersey Inst. of Technol.*

8:00 J26 **303.09** Intraspinal neural synchrony: Oscillating between interpretations. J. G. MCPHERSON*; M. F. BANDRES; V. MELERO; M. BUCHANAN. *Washington Univ. in St. Louis, Washington Univ. in St. Louis, Washington Univ. in St. Louis, Florida Intl. Univ.*

9:00 J27 **303.10** Changes in spinal dorsal horn neuron characteristics from the early stage of peripheral nerve injury to chronic pain transition. M. KURABE*; M. SASAKI; H. BABA. *Niigata Univ, Sch. Med.*

10:00 J28 **303.11** Spasticity and spasms in knee extensor muscles in people with incomplete spinal cord injury. B. A. DEFOREST*; S. SANGARI; J. BOHORQUEZ; M. PEREZ. *Univ. of Miami, Shirley Ryan Ability Lab., Univ. of Miami, Bruce W. Carter Dept. of Veterans Affairs Med. Ctr.*

11:00 J29 **303.12** Bilateral asymmetries in assessments of sensory function after spinal cord injury. B. CHEN*; M. A. PEREZ. *Univ. of Miami, Shirley Ryan Ability Lab., Bruce W. Carter Dept. of Veterans Affairs Med. Ctr.*

8:00 J30 **303.13** Altered neural activity and functional connectivity in injured cervical spinal cord in monkeys. P. F. YANG; T. L. WU; N. BYUN; J. C. GORE; L. M. CHEN*. *Vanderbilt Univ. Med. Ctr.*

9:00 J31 **303.14** Loss of tactile input differentially alters the responsiveness and functional connectivity of primate somatosensory cortices. L. CHEN; A. MISHRA; F. WANG; P. YANG*; J. C. GORE. *Vanderbilt Univ.*

POSTER

304. Peripheral Auditory System

Theme D – Sensory Systems

Mon. 8:00 AM – *McCormick Place, Hall A*

8:00 J32 **304.01** ● Discovery of PIPE-505, a small molecule therapeutic for the treatment of sensorineural hearing loss (SNHL) associated with cochlear synaptopathy. D. LORRAIN*; M. POON; K. J. STEBBINS; G. EDU; A. BROADHEAD; J. SEIDERS; J. ROPPE. *Pipeline Therapeut.*

9:00 J33 **304.02** Electrophysiological characterization of type II spiral ganglion neurons. M. C. PEREZ-FLORES*; J. HAN LEE; S. PARK; M. KANG; E. N. YAMOAH. *Univ. of Nevada Reno.*

● Indicated a real or perceived conflict of interest, see page 150 for details.
▲ Indicates a high school or undergraduate student presenter.
* Indicates abstract's submitting author

10:00 J34 **304.03** Spatiotemporal susceptibility of the cochlea and the statoacoustic ganglion to Zika virus infection. N. H. SAMMUDIN; A. THAWANI; V. MUNNAMALAI; H. REYGAERTS; A. WOZNIAK; R. J. KUHN; D. M. FEKETE*. *Purdue Univ., Purdue Inst. for Integrative Neurosci., Purdue Inst. of Inflammation, Immunol. and Infectious Dis., The Jackson Lab., Tufts Univ., Univ. of Maine.*

11:00 J35 **304.04** ● Non-invasive induction of mild therapeutic hypothermia mitigates noise-induced hearing loss. S. RINCON SABATINO*; R. SANGALETTI; M. HOFFER; C. KING; S. RAJGURU. *Univ. of Miami, Univ. of Miami, Miller Sch. of Med., Univ. of Miami, Lucent Med. Systems, Univ. of Miami.*

8:00 J36 **304.05** Noise damage and repair in zebrafish: Modeling acoustic overstimulation in lateral-line organs. M. HOLMGREN; M. E. RAVICZ; K. E. HANCOCK; M. E. WARCHOL; L. SHEETS*. *Washington Univ. Sch. of Med. In St. Lo, Harvard Med. Sch., Massachusetts Eye and Ear.*

9:00 J37 **304.06** Contrasting mechanisms for hidden hearing loss: Synaptopathy vs myelin defects. M. BUDAK*; K. GROSH; G. CORFAS; M. R. ZOCHOWSKI; V. BOOTH. *Univ. of Michigan, Univ. of Michigan, The Univ. of Michigan, Univ. of Michigan, Univ. of Michigan.*

10:00 J38 **304.07** Pou3f4 expressing otic mesenchyme cells promote spiral ganglion neuron survival. P. M. BROOKS*; M. L. MACRAE; K. M. RANGOUSSIS; T. M. COATE. *Georgetown Univ.*

11:00 J39 **304.08** Molecular mechanisms of alcohol-induced developmental defects in the zebrafish inner ear. L. Y. ZAMORA*; I. SKROMNE; Z. LU. *Univ. of Miami, Univ. of Richmond.*

8:00 J40 **304.09** A backward encoding approach to recover subcortical auditory activity. F. SCHMIDT*; G. DEMARCHI; F. GEYER; N. WEISZ. *Univ. of Salzburg, Univ. of Salzburg.*

9:00 J41 **304.10** ● Towards the optical cochlear implant: Optogenetic stimulation of the auditory pathway. D. KEPPELER*; A. DIETER; E. KLEIN; M. SCHWAERZLE; P. RUTHER; T. MOSER. *Inst. for Auditory Neurosci., Univ. of Freiburg, Univ. of Freiburg, Univ. of Freiburg, Univ. Med. Ctr. Goettingen.*

10:00 J42 **304.11** Radixin modulates outer hair cell stereocilia function. S. PRASAD*; A. FRIDBERGER. *Linköping Univ.*

11:00 J43 **304.12** Cochlear activity during silent periods shows a theta rhythmic pattern and is correlated to classical intermodal attention alpha effects. M. H. A. KOEHLER*; G. DEMARCHI; N. WEISZ. *Univ. of Salzburg.*

8:00 J44 **304.13** Low Notch and high Wnt signaling determines hair cell fate in neuromast regeneration. Y. WU; F. ZHAO; P. WANG; F. RAO; X. SONG; D. LIU*. *Southern Univ. of Sci. and Technol.*

9:00 J45 **304.14** Functions of stereocilia base in auditory perception. B. ZHAO*. *Indiana Univ. Sch. of Med.*

10:00 J46 **304.15** Apoptosis signal regulating kinase 1 (MAP3K5) inhibition attenuates aminoglycoside ototoxicity. J. M. OGIER*; B. NAYAGAM; R. BURT; E. DUNNE; P. J. LOCKHART. *Murdoch Childrens Res. Inst., The Univ. of Melbourne, Murdoch Childrens Res. Inst.*

POSTER

305. Auditory Cortex: Temporal and Frequency Factors

Theme D – Sensory Systems

Mon. 8:00 AM – *McCormick Place, Hall A*

8:00 K1 **305.01** Neuronal frequency tuning in human auditory cortex: A 7T fMRI adaptation and modelling approach. J. BESLE*; R. SANCHEZ-PANCHUELO; S. FRANCIS; K. KRUMBHOLZ. *American Univ. of Beirut, Univ. of Nottingham, Univ. of Nottingham.*

9:00 K2 **305.02** ● Targeted cortical manipulation of auditory perception. S. CEBALLO*; Z. PIWKOWSKA; J. BOURG; A. DARET; B. BATHELLIER. *Paris-Saclay Inst. of Neurosci. (Neuropsi), Inst. Pasteur.*

10:00 K3 **305.03** ● Decoding complex sounds using broadband population recordings from secondary auditory cortex of macaques. J. LEE*; C. D. HEELAN; L. LYNCH; R. O'SHEA; D. BRANDMAN; W. TRUCCOLO; A. V. NURMIKKO. *Brown Univ., Connexon Systems, Dalhousie Univ., Brown Univ., Brown Univ.*

11:00 K4 **305.04** Temporal and resolved harmonic pitch encoding in auditory cortical neurons. Q. GAUCHER; A. Z. IVANOV; M. PANNIELLO; A. J. KING; K. M. M. WALKER*. *Univ. of Oxford, The Univ. of Oxford, Univ. of Oxford.*

8:00 K5 **305.05** MEG correlates of periodicity relevant to pitch perception in human auditory cortex. S. KIM*; T. OVERATH; W. SEDLEY; S. KUMAR; S. TEKI; T. D. GRIFFITHS. *Duke Univ., Duke Univ., Duke Univ., Univ. Col. London, Univ. Col. London, Newcastle Univ. Med. Sch.*

9:00 K6 **305.06** Cortical mapping of prediction error responses to multiple sensory features. H. AN*; R. AUKSZTULEWICZ; J. W. SCHNUPP. *City Univ. of Hong Kong, Univ. of Oxford, City Univ. of Hong Kong.*

10:00 K7 **305.07** Variation in temporal coding of vocalizations along the anterior-posterior extent of marmoset auditory cortex. X. LIU*; X. WANG. *Johns Hopkins Sch. of Med., Johns Hopkins Univ. Sch. Med.*

11:00 K8 **305.08** Structural changes in primary auditory cortex neuronal networks impact encoding fidelity in noisy environments. K. V. SHILLING-SCRIVO*; P. O. KANOLD; B. BABADI; A. SHEIKHATTAR. *Univ. of Maryland Sch. of Med., Univ. of Maryland, Univ. of Maryland, Univ. of Maryland.*

8:00 K9 **305.09** Responses to changes in amplitude modulation rate and spatial location in neurons in the auditory cortex in an awake macaque monkey. B. M. BORMANN*; D. A. BEAUREGARD CAZABON; K. E. NEVERKOVEC; K. B. CHEUNG; G. H. RECANZONE*. *Univ. Of California, Davis, Univ. Of California, Davis.*

8:00 DP06/K10 **305.10** (Dynamic Poster) Tracking the building blocks of pitch perception in auditory cortex. L. GWILLIAMS*; E. ABRAMS; A. MARANTZ. *New York Univ.*

10:00 K11 **305.11** Complex frequency interactions revealed by two-tone stimuli in awake mouse A1. J. LIU*; P. O. KANOLD. *Univ. of Maryland.*

11:00 K12 **305.12** High frequency time-locking in human auditory cortex to continuous speech. J. P. KULASINGHAM*; C. BRODBECK; A. PRESACCO; S. E. KUCHINSKY; S. ANDERSON; J. Z. SIMON. *Univ. of Maryland, Walter Reed Natl. Military Med. Ctr.*

- ● Indicated a real or perceived conflict of interest, see page 150 for details.
- ▲ Indicates a high school or undergraduate student presenter.
- * Indicates abstract's submitting author

8:00 K13 **305.13** Functional architecture of auditory cortex in awake marmosets revealed by multi-scale multi-modal optical imaging. X. SONG*; Y. GUO; C. CHEN; X. WANG. *Johns Hopkins Univ., Johns Hopkins Univ., Johns Hopkins Univ. Sch. Med.*

9:00 K14 **305.14** Sound representation in the mouse temporal association cortex (TeA). L. FEIGIN*; G. TASAKA; I. MAOR; A. MIZRAHI. *Hebrew Univ. of Jerusalem, The Hebrew Univ. of Jerusalem, The Hebrew Univ., Hebrew Univ. of Jerusalem.*

10:00 K15 **305.15** How do structural constraints guide asymmetry in cortical organization of auditory steady state responses (ASSR)? N. KUMAR*; S. KUMAR; D. ROY; A. BANERJEE. *Natl. Brain Res. Ctr.*

11:00 K16 **305.16** Stimulus dependent transformations between synaptic and spiking receptive fields in auditory cortex. K. X. KIM*; C. A. ATENCIO; C. E. SCHREINER. *Univ. of California San Francisco.*

8:00 K17 **305.17** Nicotine enhances temporal responsiveness in mouse A1. I. INTSKIRVELI*; E. PROVENZANO; R. METHERATE. *Univ. of California Irvine, Univ. of California San Diego.*

9:00 K18 **305.18** Cooling of the auditory cortex modulates temporal processing of auditory thalamic neurons in awake marmosets. Y. ZHANG*; S. BAI; X. WANG; R. LI; H. SUN; L. GAO. *Interdisciplinary Inst. of Neurosci. and Technology, Key Lab. for Biomed. Engin. of Ministry of Education, Col. of Biomed. Engin. and Instrument Science, Zhejiang Univ.*

10:00 K19 **305.19** Species differences in the cortical analysis of auditory time windows in primates. P. DHEERENDRA*; S. BAUMANN; O. JOLY; F. BALEZEAU; A. THIELE; T. D. GRIFFITHS. *Newcastle Univ., Oxford Univ., Brainomix.*

11:00 K20 **305.20** Neural circuits underlying spectro-temporal integration of sounds. A. M. KLINE*; D. A. APONTE; H. K. KATO. *Univ. of North Carolina at Chapel Hill.*

8:00 K21 **305.21** Imbalanced excitatory synaptic charge shapes direction selectivity in primary auditory cortex. D. APONTE*; A. M. KLINE; H. K. KATO. *Univ. of North Carolina at Chapel Hill.*

9:00 K22 **305.22** Functional segregation of the marmoset auditory cortex by data-driven decomposition of responses to naturalistic sounds with wide-field optical imaging. Y. GUO*; X. SONG; C. CHEN; X. WANG. *Johns Hopkins Univ.*

10:00 K23 **305.23** Spike decoding of signals from noise stimuli in the auditory cortex of an awake macaque monkey. D. BEAUREGARD CAZABON*; B. BORMANN; K. NEVERKOVEC; K. CHEUNG; G. H. RECANZONE; B. J. MALONE. *Univ. of California, Davis, Univ. Of California, Davis, Univ. of California, Davis, UCSF Sch. of Med.*

11:00 K24 **305.24** Effects of amplitude-modulated signal-in-noise auditory stimuli on the firing rates of auditory cortical neurons in an awake macaque monkey. A. N. SANCHEZ*; D. B. CAZABON; B. BORMANN; K. NEVERKOVEC; K. B. CHEUNG; G. H. RECANZONE. *UC Davis, UC Davis.*

POSTER

306. Auditory Processing: From Midbrain to Cortex

Theme D – Sensory Systems

Mon. 8:00 AM – *McCormick Place, Hall A*

8:00 K25 **306.01** The roles of NPY neurons and NPY signaling in the inferior colliculus. M. A. SILVEIRA*; J. D. ANAIR; N. L. BEEBE; L. L. BURGER; B. R. SCHOFIELD; M. T. ROBERTS. *Univ. of Michigan, Northeast Ohio Med. Univ., Univ. of Michigan, Northeast Ohio Med. Univ.*

9:00 K26 **306.02** Dopamine heterogeneously alters processing in the inferior colliculus independent of stimulus type. J. M. HOYT*; D. J. PERKEL; C. V. PORTFORS. *Washington State Univ. Vancouver, Univ. of Washington.*

10:00 K27 **306.03** Synaptic integration and sound processing by VIP neurons in the inferior colliculus of mice. D. GOYER*; M. A. SILVEIRA; A. P. GEORGE; N. L. BEEBE; B. R. SCHOFIELD; M. T. ROBERTS. *Univ. of Michigan, Univ. of Michigan, Univ. of Michigan, Northeast Ohio Med. Univ., Univ. of Michigan.*

11:00 K28 **306.04** Sound-evoked after-discharge: A new form of plasticity in the auditory midbrain. A. L. BURGHARD*; C. M. LEE; D. L. OLIVER. *UConn Hlth., Sch. of Medicine, Univ. of Connecticut.*

8:00 K29 **306.05** Monosynaptic auditory inputs to the cerebellar flocculus and paraflocculus. G. SEKERKOVA; C. RICHTER*; M. MARTINA. *Northwestern Univ. Feinberg Sch. of Med.*

9:00 K30 **306.06** Putative amygdala-brainstem synaptic mechanism important for sensory gating. J. C. CANO*; K. FENELON. *Univ. of Texas At El Paso, Univ. of Massachusetts Amherst.*

10:00 K31 **306.07** Neural circuits for somatosensory control of auditory thalamo-cortical processing. M. LOHSE*; J. C. DAHMEN; V. M. BAJO; A. J. KING. *Univ. of Oxford.*

11:00 K32 **306.08** Dissection of auditory thalamocortical circuit dynamics using targeted lidocaine microinjections. P. LAKATOS*; M. N. O'CONNELL; A. BARCZAK; T. M. MCGINNIS; S. A. NEYMOTIN; T. M. MOWERY. *Nathan Kline Inst., Nathan S Kline Inst., Nathan Kline Inst., Nathan Kline Inst., Nathan Kline Inst. For Psychiatric Res., New York Univ.*

8:00 K33 **306.09** A corticothalamic circuit for motor modulation of auditory processing. K. K. CLAYTON*; R. S. WILLIAMSON; G. TASAKA; A. MIZRAHI; T. A. HACKETT; D. B. POLLEY. *Harvard Med. Sch., Massachusetts Eye and Ear, Harvard Med. Sch., The Hebrew Univ. of Jerusalem, Hebrew Univ. of Jerusalem, Vanderbilt Univ., Harvard Med. Sch.*

9:00 K34 **306.10** Cortical activation in a mouse model of the auditory brainstem implant. V. KANUMURI; A. ZHU*; A. DAVIS; A. QURESHI; S. MCINTURFF; O. TARABICHI; N. VACHICOURAS; K. K. CLAYTON; S. LACOUR; M. BROWN; D. B. POLLEY; D. J. LEE; A. E. TAKESIAN. *Massachusetts Eye and Ear Infirmary, Howard Hughes Med. Inst., École Polytechnique Fédérale de Lausanne, Harvard Med. Sch., Harvard Med. Sch., Massachusetts Eye and Ear.*

10:00 K35 **306.11** Cell morphology-specific nicotine regulation of excitatory synapse in mouse auditory cortex. T. NAGAYAMA*; R. METHERATE; H. D. KAWAI. *Soka Univ., Univ. of California Irvine Dept. of Neurobio. and Behavior, Soka Univ.*

• Indicated a real or perceived conflict of interest, see page 150 for details.
▲ Indicates a high school or undergraduate student presenter.
* Indicates abstract's submitting author

11:00 K36 **306.12** Regional expression of parvalbumin and calbindin in macaque auditory cortex. L. A. DE LA MOTHE*; S. HUBBARD; H. WALKER; T. A. HACKETT. *Tennessee State Univ., Vanderbilt Univ.*

8:00 K37 **306.13** State-dependence of spontaneous and sound-evoked responses across layers and cell types of mouse auditory cortex. S. JO*; T. DONOR; E. MCCARTHY; D. A. MCCORMICK. *Univ. of Oregon, Univ. of Oregon.*

9:00 K38 **306.14** Modulation of glutamatergic and GABAergic circuits produce frequency and region-specific effects on auditory evoked responses. I. GONZALEZ-BURGOS; M. BAINIER; M. J. NICOLAS; P. SCHOENENBERGER; M. VALENCIA; R. L. REDONDO*. *Roche Innovation Ctr. Basel, Univ. de Navarra, Navarra Inst. for Hlth. Res.*

10:00 K39 **306.15** Diverse brain regions targeting layer 1 interneuron subtypes in auditory cortex. C. G. SWEENEY*; A. C. CASTRO; B. M. GLICKMAN; J. D. MCLENNAN; E. HE; A. E. TAKESIAN. *Massachusetts Eye and Ear Infirmary, Harvard Med. Sch., Harvard Univ.*

11:00 K40 **306.16** The development of circuits to L1 neurons in the mouse auditory cortex. X. MENG*; J. P. Y. KAO; P. O. KANOLD. *Univ. of Maryland, Univ. of Maryland Sch. of Med.*

8:00 L1 **306.17** Rewiring the deafferented thalamic and cortical neurons to the remaining auditory inputs: A model for treatment of tinnitus patients. P. JENDRICHOVSKY*; Y. YANG; X. CHEN; J. HE. *City Univ. of Hong Kong.*

9:00 L2 **306.18** Experience based changes to auditory corticostriatal E/I receptor function gates LTP and permits associative learning. N. PARAOUTY; T. M. M. MOWERY*. *New York Univ.*

10:00 L3 **306.19** Molecular heterogeneity in a peripheral auditory feedback circuit. M. M. FRANK; A. A. SITKO; W. YAN; M. H. MYOGA; J. R. SANES; B. GROTHE; L. V. GOODRICH. *Harvard Med. Sch., Harvard Univ., Ludwig Maximilians Univ. Munich.*

POSTER

307. Visual Cortex: Manipulating and Reading Neural Activity

Theme D – Sensory Systems

Mon. 8:00 AM – *McCormick Place, Hall A*

8:00 L4 **307.01** Behavioral detection of optogenetic stimulation in macaque inferior temporal cortex. S. BOHN*; A. AFRAZ. *NIMH.*

9:00 L5 **307.02** Functional imaging of excitatory neurons in an entire column in mouse visual cortex. R. ABBASI-ASL*; J. LARKIN; K. TAKASAKI; D. MILLMAN; D. DENMAN; J. LECOQ; A. ARKHIPOV; N. W. GOUWENS; J. WATERS; R. C. REID; S. E. J. DE VRIES. *Allen Inst. for Brain Sci.*

10:00 L6 **307.03** A bi-directional optical-genetic toolkit for reading and writing topographic neural population codes in behaving macaque cortex. Y. Y. CHEN*; G. BENVENUTI; D. MILLER; C. T. SULLENDER; F. RADAEI; A. DUNN; C. RAMAKRISHNAN; K. DEISSEROTH; W. S. GEISLER; E. SEIDEMANN. *Univ. of Texas at Austin, Univ. of Texas at Austin, Stanford Univ. Dept. of Psychology.*

11:00 L7 **307.04** Neural and perceptual correlates of nonlinear interactions between visual and optogenetic stimulation in behaving macaque V1. S. KUMAR*; S. C. CHEN; Y. Y. CHEN; G. BENVENUTI; M. P. WHITMIRE; W. S. GEISLER; E. SEIDEMANN. *Univ. of Texas at Austin.*

8:00 L8 **307.05** All-optical interrogation of functional connectivity in mouse visual cortex during behaviour. L. E. RUSSELL*; Z. YANG; M. FISEK; A. M. PACKER; H. W. DALGLEISH; M. HAUSSER. *UCL, Univ. of Oxford.*

9:00 L9 **307.06** Optogenetic stimulation of area V6 improves visual detection in the marmoset. P. JENDRITZA*; F. KLEIN; P. FRIES. *Ernst Strüngmann Inst. (ESI) For Neurosci., Intl. Max Planck Res. Sch. for Neural Circuits, Donders Inst. for Brain, Cognition and Behaviour, Radboud Univ.*

10:00 L10 **307.07** Stable, multi-day, functional measurement to study cellular level plasticity in mouse primary visual cortex by fast 3-dimensional imaging. A. PLAUSKA*; M. MAROSI; G. SZALAY; K. OCSAI; D. PINKE; T. TOMPA; D. NAGY; C. CSUPERNYÁK; A. BOJDAN; A. SZEPESI; G. KATONA; B. ROZSA. *IEM-HAS, Pázmány Péter Catholic Univ.*

11:00 L11 **307.08** The effect of optogenetic stimulation of basolateral amygdala on declarative memory in rats. D. S. REIS*; L. E. DIFAZIO; N. S. AHLGRIM; J. R. MANNS. *Emory Univ., Emory Univ.*

8:00 L12 **307.09** Ultra-large field-of-view optogenetic stimulation and two-photon imaging of the foveal region of area V1 in non-human primates. J. CHANOVAS*; O. CABALLERO; M. LEDO; A. YAZDAN-SHAHMORAD; Y. CHENG; L. BIZIMANA; E. M. CALLAWAY; E. SEIDEMANN; J. H. REYNOLDS; M. AVERY; P. LI; A. S. NANDY; S. TANG; Y. Y. CHEN; A. VAZIRI; T. NOEBAUER; S. MARTINEZ-CONDE; N. NISHIMURA; C. SCHAFFER; S. L. MACKNIK. *SUNY Downstate Med. Ctr., Univ. of Washington, Cornell Univ., Salk Inst., Univ. of Texas at Austin, Yale Univ., Peking Univ., The Rockefeller Univ.*

9:00 L13 **307.10** Optogenetic activation of GABAergic neurons in primate V1 impairs detection performance through indirect effects on excitatory neurons. V. E. SCERRA*; M. AVERY; J. DIMIDSCHSTEIN; G. J. FISHELL; J. H. REYNOLDS. *Salk Inst. for Biol. Studies, Case Western Reserve, Harvard Med. Sch., Harvard Med. Sch.*

8:00 DP07/L14 **307.11** (Dynamic Poster) BonVision - An open-source software to create and control visual environments. G. LOPES; K. FARRELL; E. A. B. HORROCKS; T. MUZZU; M. M. MORIMOTO; A. PAPANIKOLAOU; T. WHEATCROFT; S. ZUCCA; S. G. SOLOMON; A. B. SALEEM*. *NeuroGEARS Ltd., Univ. Col. London.*

11:00 L15 **307.12** Large scale characterization of a visual change detection task using a high throughput two-photon calcium imaging *in vivo* pipeline. S. M. SEID*; N. Y. ORLOVA; F. NAJAFI; I. KATO; S. CALDEJON; K. MACE; E. LEE; T. V. NGUYEN; F. GRIFFIN; A. WILLIFORD; L. CASAL; K. NORTH; S. LAMBERT; A. CHO; J. SWAPP; C. NAYAN; N. HANCOCK; R. LARSEN; D. OLLERENSHAW; W. WAKEMAN; A. LEON; Q. LHEUREUX; D. SULLIVAN; C. FARRELL; M. GARRETT; S. OLSEN; P. GROBLEWSKI; J. LECOQ. *Allen Inst. for Brain Sci.*

• Indicated a real or perceived conflict of interest, see page 150 for details.
▲ Indicates a high school or undergraduate student presenter.
* Indicates abstract's submitting author

8:00 L16 **307.13** A large-scale, standardized survey of spiking activity across the mouse visual system. J. H. SIEGLE*; X. JIA; S. DURAND; G. R. HELLER; T. RAMIREZ; N. GRADDIS; W. WAKEMAN; J. A. LUVIANO; A. WILLIFORD; S. CALDEJON; R. DIETZMAN; C. SLAUGHTERBECK; D. SULLIVAN; K. TURNER; R. HYNTEN; K. NGO; R. NICOVICH; D. J. DENMAN; L. CASAL; S. NAYLOR; C. THOMPSON; S. E. DEVRIES; C. FARRELL; J. LECOQ; P. A. GROBLEWSKI; L. NG; R. C. REID; S. R. OLSEN; C. KOCH. *Allen Inst. for Brain Sci.*

9:00 L17 **307.14** Adventures in motion correcting high noise multiphoton microscopy data. J. M. GALBRAITH*; L. KUAN; L. NG; J. WATERS; D. MILLMAN; J. LECOQ. *The Allen Inst. For Brain Sci.*

10:00 L18 **307.15** Neuropixels recordings across cortical visual hierarchy during change detection in mice. C. BENNETT; S. GALE; C. NAYAN; J. SWAPP; S. LAMBERT; A. CHO; J. SIEGLE; P. GROBLEWSKI; S. R. OLSEN*. *Allen Inst. For Brain Sci.*

11:00 L19 **307.16** ● Comparing spike sorting quality metrics for high-density electrophysiological recordings. G. R. HELLER*; J. H. SIEGLE; X. JIA; D. DENMAN; S. OLSEN. *The Allen Inst., The Allen Inst.*

8:00 L20 **307.17** Tracking single cell response properties across days during performance of an image change detection task. K. ROLL*; M. GARRETT; F. LONG; L. KUAN; R. S. LARSEN; N. D. PONVERT; J. LECOQ; J. M. GALBRAITH; S. R. OLSEN. *Allen Inst. for Brain Sci., Allen Inst. For Brain Sci., Allen Inst. For Brain Sci., Allen Inst., The Allen Inst. For Brain Sci.*

9:00 L21 **307.18** Two-photon microscope compatible immersive virtual reality system for mice. D. PINKE*; G. DOBOS; M. MAROSI; B. GULYÁS; B. ROZSA. *Inst.of Exptl. Med., Pázmány Péter Catholic Univ.*

10:00 L22 **307.19** Population responses of backward masking in V1 of behaving monkeys. H. EDELMAN KLAPPER; H. SLOVIN. *Bar Ilan Univ.*

POSTER

308. Visual Cortex: Plasticity

Theme D – Sensory Systems

Mon. 8:00 AM – *McCormick Place, Hall A*

8:00 L23 **308.01** Increased spine dynamics in the visual cortex of PSD-95 knockout mice: Chronic two-photon imaging of neuronal morphology in the awake brain. A. TIPPMANN; B. JOACHIMSTHALER; S. TREUE; C. SCHWARZ; O. SCHLÜTER; S. LÖWEL*. *Univ. of Goettingen, German Primate Ctr., Univ. of Tuebingen, Collaborative Res. Ctr. 889, Univ. of Pittsburgh, Univ. Med. Ctr., Campus Inst. for Dynamics of Biol. Networks.*

9:00 L24 **308.02** Does ketamine modify the neuronal network of the rodent visual cortex? A. OUELHAZI*; R. LUSSIEZ; S. MOLOTCHNIKOFF. *Univ. De Montreal, Univ. of Montreal, Univ. de Montreal.*

10:00 L25 **308.03** Cortical thickness in sight-recovery and congenitally blind individuals. C. HÖLIG*; M. J. S. GUERREIRO; I. SHAREEF; S. LINGAREDDY; R. KEKUNNAYA; B. RÖDER. *Univ. of Hamburg, LV Prasad Eye Inst., Lucid Med. Diagnostics.*

11:00 L26 **308.04** Lynx1 sharpens orientation tuning of visual cortical neurons by dampening excitatory drive and intrinsic excitability. D. KATO; K. YAMAMURO; Y. GARKUN*; M. SADAHIRO; M. SAJO; G. C. R. ELLIS-DAVIES; H. MORISHITA. *Icahn Sch. of Med. at Mount Sinai, Icahn Sch. of Med. at Mount Sinai, Icahn Sch. of Med. at Mount Sinai.*

8:00 L27 **308.05** Changes in cortical responses caused by learning novel optogenetic stimuli. P. K. LAFOSSE*; S. P. DUFFY; L. N. RYAN; A. J. LI; M. H. HISTED. *NIH, NIH, New York Univ., NIH, NIH / NIMH.*

9:00 L28 **308.06** Cortical plasticity induced by conversion of synaptic eligibility traces *in vivo.* S. Z. HONG*; A. KIRKWOOD. *Johns Hopkins Univ., Johns Hopkins Univ.*

10:00 L29 **308.07** Circuit-specific changes in the visual cortical excitation/inhibition ratio across the light/dark cycle. M. C. D. BRIDI*; F. ZONG; X. ZHANG; D. SEVERIN; K. HE; A. KIRKWOOD. *Johns Hopkins Univ., Shanghai Insititute of Organic Chemistry, Chinese Acad. of Sci., Johns Hopkins Univ., Chinese Acad. of Sci., Johns Hopkins Univ.*

11:00 L30 **308.08** Optical activation of TrkB receptors in parvalbumin interneurons regulates plasticity modes in cortical networks. F. WINKEL*; G. DIDIO; M. LLACH POU; A. STEINZEIG; M. RYAZANTSEVA; J. HARKKI; J. ENGLUND; T. TAIRA; S. LAURI; J. UMEMORI; E. CASTREN. *Univ. of Helsinki, Univ. of Helsinki, Univ. of Helsinki.*

8:00 L31 **308.09** ● Transplanted cells are essential for the induction but not the expression of cortical plasticity. M. HOSEINI*; B. RAKELA; Q. FLORES-RAMIREZ; A. HASENSTAUB; A. ALVAREZ-BUYLLA; M. STRYKER. *Univ. of California.*

9:00 L32 **308.10** Development of immune and inflammatory proteins in human visual cortex: Biological processes and cell types. K. ARBABI*; E. JEYANESAN; K. M. MURPHY. *McMaster Univ.*

10:00 L33 **308.11** Development of immune and inflammatory proteins in the human visual cortex: Relationship to glutamatergic and GABAergic proteins. E. JEYANESAN*; J. L. BALSOR; K. ARBABI; K. M. MURPHY. *McMaster Univ.*

11:00 L34 **308.12** ▲ Reorganization of functional streams in cerebral compared to ocular visual impairment. E. S. BAILIN*; I. DIEZ; C. M. BAUER; J. SEPULCRE; L. B. MERABET. *Mass. Eye and Ear -- Harvard Med. Sch., Massachusetts Gen. Hosp., Harvard Med. School, Massachusetts Eye and Ear, MEEI- SERI Harvard Med. Sch.*

8:00 L35 **308.13** Layer 4 gates the critical period for visual plasticity through nogo receptor 1. M. G. FRANTZ; T. IKRAR; G. SOKHADZE; X. XU; A. W. MCGEE*. *USC, Univ. of California, Irvine, Univ. of Louisville, Univ. California, Irvine, Univ. of Louisville.*

POSTER

309. Processing of Visual Motion

Theme D – Sensory Systems

Mon. 8:00 AM – *McCormick Place, Hall A*

8:00 L36 **309.01** Accelerating looming stimuli change the response timing of a collision-detection neuron. R. B. DEWELL*; G. K. KORDESTANI; F. GABBIANI. *Baylor Col. of Med.*

• Indicated a real or perceived conflict of interest, see page 150 for details.
▲ Indicates a high school or undergraduate student presenter.
* Indicates abstract's submitting author

9:00 L37 **309.02** A biophysical model for visual feature integration during looming detection. S. J. O'ROURKE; D. P. GOODMAN; H. JANG; C. R. VON REYN; J. AUSBORN*. *Drexel Univ., Drexel Univ. Col. of Med.*

10:00 L38 **309.03** Dendritic mechanisms underlying motion detection in starburst amacrine cells. H. E. ACARON LEDESMA*; C. CHAN; S. WANG; M. Z. LIN; W. WEI. *Univ. of Chicago, Stanford Univ., Stanford Univ., Univ. of Chicago.*

11:00 L39 **309.04** Occlusion responses lead to fine spatial discrimination despite aberrant velocity information in direction-selective ganglion cells. J. DING*; A. CHEN; W. WEI; S. PALMER. *Univ. of Chicago.*

8:00 L40 **309.05** Receptive field properties of the developing ferret lateral geniculate nucleus. A. K. STACY*; N. A. SCHNEIDER; D. A. BRESSLER; L. S. HAYASHI; S. D. VAN HOOSER. *Brandeis Univ., Brandeis Univ.*

9:00 L41 **309.06** Development of direction selectivity in the ferret motion pathway and effects of stimulation. A. A. LEMPEL*; A. S. KAVUTURU; K. J. NIELSEN. *Johns Hopkins Univ., Johns Hopkins Univ.*

10:00 L42 **309.07** Erp evidence for persistence of object-based selection over unpredictable changes in object attributes. E. N. CATAK; H. KAFALIGONUL*; M. OZKAN; G. R. STONER. *Bilkent Univ., Bilkent Univ., Dartmouth Col., Salk Inst. for Biol. Studies.*

11:00 L43 **309.08** Posterior entopallium lesions may produce a spatial integration deficit that affects pigeons' discrimination of human behavior. M. A. J. QADRI; S. L. KELLOGG*; G. ROTHMAN; H. ADAMSON; M. H. TRAN; A. M. KELLER; D. I. BROOKS; T. SHIMIZU; R. G. COOK. *Tufts Univ., Univ. of South Florida, Max Planck Inst. for Human Cognitive and Brain, Univ. of South Florida.*

8:00 L44 **309.09** Surround suppression in deep models of complex motion processing. O. SADAT REZAI*; B. P. TRIPP. *Univ. of Waterloo.*

9:00 L45 **309.10** Representation of multiple strokes apparent motion in awake monkey V1. K. BLAIZE*; S. CHEMLA; A. REYNAUD; M. DI VOLO; A. DESTEXHE; F. Y. CHAVANE. *CNRS & Aix-Marseille Université, Marseille, CNRS & Aix-Marseille Univ., McGill Univ., Unité de Neurosciences, Information et Complexité, Ctr. Natl. de la Recherche Scientifique, FRE 3693., Unité de Neurosciences, Information et Complexité, Ctr. Natl. de la Recherche Scientifique, FRE 3693., European Inst. for Theoretical Neurosci.*

10:00 L46 **309.11** Predicting the future from the past in visual object motion: Optimal representations of mixed stochastic/deterministic trajectories. V. SACHDEVA*; A. WALCZAK; T. MORA; S. E. PALMER. *Univ. of Chicago, Ecole Normale Superieure, Ecole Normale Supérieure, Univ. of Chicago.*

11:00 M1 **309.12** MSTd-like response properties emerge from evolving STDP and homeostatic parameters in a spiking neural network model of MT and MSTd. K. CHEN*; M. BEYELER; J. L. KRICHMAR. *Univ. of California, Irvine, Univ. of Washington.*

8:00 M2 **309.13** Motion induced blindness increases with distance from moving background. S. SALEKI*; N. HELLER; P. CAVANAGH; P. U. TSE. *Dartmouth Col.*

9:00 M3 **309.14** Functional links between motion-onset visual evoked potentials and perception. M. OZKAN*; G. R. STONER; H. KAFALIGONUL. *Dartmouth Col., Salk Inst. for Biol. Studies, Natl. Magnetic Resonance Res. Ctr. (UMRAM), Bilkent Univ.*

10:00 M4 **309.15** Multistable heterogeneous flicker has neural, functional and aesthetic effects. M. GRABOWECKY*; M. MENCELOGLU; S. SUZUKI. *Northwestern Univ.*

11:00 M5 **309.16** Dynamic scaling of motion in natural scenes. J. M. SALISBURY*; S. E. PALMER. *Univ. of Chicago.*

8:00 M6 **309.17** Size matters (sometimes): Increasing stimulus size impairs motion perception for gratings, but not random-dot patterns. B. WILD*; A. KENKEL; S. TREUE. *German Primate Ctr. (DPZ), German Primate Ctr.*

9:00 M7 **309.18** Complex properties of visual motion during natural locomotion. K. MULLER*; J. S. MATTHIS; M. M. HAYHOE. *Univ. of Texas At Austin Inst. For Neuros, Univ. of Texas at Austin, Univ. of Texas at Austin.*

10:00 M8 **309.19** Localized intracranial visual motion response drives fast BCI spelling. D. LIU*; X. XU; D. LI; J. LI; Z. LING; B. HONG. *Tsinghua Univ., PLA Gen. Hosp.*

POSTER

310. Sensorimotor Transformation: Behavior and Neuroprocessing

Theme D – Sensory Systems

Mon. 8:00 AM – *McCormick Place, Hall A*

8:00 M9 **310.01** Using a flash stimulus to investigate the underlying visual and motor transformation of body patterning in intact, living squid. S. P. HADJISOLOMOU*; K. KLOSKOWSKI; A. CHAVARGA; R. EL-HADDAD; I. ABRAMOV. *American Univ. of Kuwait, Brooklyn Col. of the City Univ. of New York, Fawzia Sultan Hlth. Network.*

9:00 M10 **310.02** Dissecting sensory information processing onto interneurons using calcium imaging in freely moving animals navigating a thermal gradient. E. G. CABEZAS-BOU*; J. HAWK; D. COLÓN-RAMOS. *Yale Univ., Univ. of Puerto Rico, Rio Piedras Campus.*

10:00 M11 **310.03** Evolutionary origin of visual and somatosensory processing in the vertebrate cortex. S. M SURYANARAYANA*; J. PÉREZ-FERNANDEZ; B. ROBERTSON; S. GRILLNER. *Karolinska Institutet.*

11:00 M12 **310.04** Role of forebrain for zebrafish prey capture. I. GROSSRUBATSCHER*; A. D. HOAGLAND; M. KLINGER; A. R. ROMO; S. PARIJA; E. ISACOFFF. *UC Berkeley, UC Berkeley, Univ. of California, Berkeley.*

8:00 M13 **310.05** Sensorimotor processing in the zebrafish dorsal raphe nucleus. T. KAWASHIMA*; Z. WEI; A. S. ABDELFATTAH; J. S. MARVIN; L. L. LOOGER; L. D. LAVIS; E. R. SCHREITER; M. B. AHRENS. *HHMI Janelia Res. Campus.*

9:00 M14 **310.06** ▲ Alpha7 nicotinic acetylcholine receptors in bipolar cells play a role in the optomotor response in mice. C. C. KOEHLER*; J. GOPE; C. B. HELLMER; L. M. HALL; T. ICHINOSE. *Wayne State Univ. Sch. of Med.*

10:00 M15 **310.07** Improvement of visual discrimination during active behavior requires precise sensorimotor contingencies. M. CONCHA-MIRANDA*; J. RIOS; J. BOU; J. VALDÉS; P. MALDONADO. *Univ. De Chile, BNI.*

11:00 M16 **310.08** Behavioral responses evoked by novel motion stimuli change over development and correlate with immediate early gene expression patterns in the midbrain and cortex. K. M. ALLEN*; N. M. PROCACCI; J. L. HOY. *Univ. of Nevada, Reno.*

• Indicated a real or perceived conflict of interest, see page 150 for details.
▲ Indicates a high school or undergraduate student presenter.
* Indicates abstract's submitting author

8:00 M17 **310.09** Experience alters the connectivity between hypothalamus and periaqueductal gray during critical periods of development in the mouse. R. OLVERA*; K. ALLEN; A. AYALA; J. L. HOY. *Univ. of Nevada Reno, Univ. of Nevada, Reno, Univ. of Nevada, Reno, Univ. of Nevada, Reno.*

9:00 M18 **310.10** Long-range inhibition mediates decision making in the superior colliculus. J. ESSIG*; J. B. HUNT; G. FELSEN. *U. of Colorado Anschutz Med. Campus.*

10:00 M19 **310.11** Visual feature representation in *Drosophila.* N. C. KLAPOETKE*; A. NERN; E. M. ROGERS; G. M. RUBIN; M. B. REISER; G. M. CARD. *HHMI Janelia Res. Campus, Howard Hughes Med. Inst. Janelia Res. C, HHMI / Janelia.*

11:00 M20 **310.12** Motor context-dependent dynamic neural processing for fine-scale control of locomotion. T. FUJIWARA*; T. CRUZ; E. CHIAPPE. *Champalimaud Fndn.*

8:00 M21 **310.13** A gradient of synaptic connectivity underlies directional control of fly escape. M. Y. PEEK*; S. NAMIKI; P. BREADS; J. POLSKY; S. ALGHAILANI; E. TENSHAW; W. R. WILLIAMSON; R. PAREKH; G. M. CARD. *HHMI Janelia Res. Campus, Univ. of Tokyo RCAST, Janelia Res. Campus/HHMI.*

9:00 M22 **310.14** Action selection and feature detection in neuronal circuits for escape and landing in *drosophila.* J. M. ACHE*; S. NAMIKI; C. R. VON REYN; M. SUMATHIPALA; P. BREADS; E. ROGERS; K. M. BRANSON; G. M. CARD. *HHMI/Janelia Res. Campus, Drexel Univ.*

10:00 M23 **310.15** ● Development of ecologically-relevant visual stimuli for study of *Drosophila* behavioral response phenotypes. C. MORROW*; T. ORAM; P. BREADS; G. CARD. *HHMI Janelia Res. Campus.*

11:00 M24 **310.16** Should I stay or should I go?: Mechanisms of survival decisions in *Drosophila.* T. B. ORAM*; J. M. ACHE; G. M. CARD. *HHMI Janelia Res. Campus.*

8:00 M25 **310.17** Tracing all presynaptic inputs to the Giant Fiber descending neuron of *Drosophila melanogaster* in an electron microscopy dataset. R. PAREKH; E. TENSHAW; J. POLSKY; S. ALGHAILANI; J. S. LAURITZEN; D. BOCK; G. M. CARD*. *HHMI Janelia Res. Campus, Univ. of Vermont.*

9:00 M26 **310.18** Investigating the functional organization of cerebellotectal projections in orienting behavior. T. YAMAUCHI*; T. DOYKOS; A. PERSON; G. FELSEN. *Univ. of Colorado Sch. of Med.*

10:00 M27 **310.19** Hippocampus and MST cortex integrate self-movement and location in driving monkeys. C. J. D. DUFFY*; W. K. PAGE. *Penn State Hlth., Univ. of Rochester Med. Ctr.*

11:00 M28 **310.20** Retinal optic flow and the visual control of locomotion in real-world terrain. J. S. MATTHIS*; K. S. MULLER; M. M. HAYHOE. *Northeastern Univ., Univ. of Texas at Austin, Univ. of Texas at Austin.*

8:00 M29 **310.21** The stronger EEG signature of motor preparation for real objects versus images is modulated by graspability. G. T. FAIRCHILD; F. MARINI; J. C. SNOW. *Univ. of Nevada Reno Dept. of Psychology, UCSD.*

9:00 M30 **310.22** The impact of perceptual, cognitive and motor demands on the fidelity of internal time estimates. A. AKKAD*; T. V. PARKS; A. C. FERGUSON; M. JAZAYERI. *McGovern Inst. for Brain Res., MIT.*

10:00 M31 **310.23** Information dynamics in embodied multifunctional recurrent neural networks. M. CANDADAI*; E. J. IZQUIERDO. *Indiana Univ.*

11:00 M32 **310.24** Complex social behaviors in larva and juvenile zebrafish are controlled by simple visual cues and are affected by single gene mutations. R. HARPAZ*; A. C. ASPIRAS; A. BAHL; M. C. FISHMAN; F. ENGERT. *Harvard Univ.*

8:00 M33 **310.25** Effects of motor timing training on golf swing motion in Parkinson's disease. J. KIM*; Z. LEMKE; A. L. RIDGEL. *Exercise Physiology., Kent State Univ., KSU Brain Hlth. Res. Inst.*

POSTER

311. Motor Control and Rehabilitation in Primates and Humans

Theme E – Motor Systems

Mon. 8:00 AM – *McCormick Place, Hall A*

8:00 M34 **311.01** Different speeds and retention periods for motor adaptation to different types of unexpected impedances for target reaching by intact human subjects. K. OH*; W. Z. RYMER. *Northwestern Univ. Feinberg Sch. of Med., Shirley Ryan AbilityLab.*

9:00 M35 **311.02** Visualizing high-dimensional motion and muscle signals. F. RIZZOGLIO*; A. A. PORTNOVA; D. DE SANTIS; E. ROMBOKAS; M. CASADIO; F. A. MUSSA-IVALDI. *Univ. of Genova, Northwestern Univ., Shirley Ryan Ability Lab., Univ. of Washington.*

10:00 M36 **311.03** Hybrid EMG-IMU BOdy-Machine Interfaces for promoting voluntary control of muscles after spinal cord injury. D. DE SANTIS*; M. T. PERLMAN; F. MUSSA-IVALDI. *Northwestern Univ., Inst. Italiano di Tecnologia.*

11:00 M37 **311.04** 2-dimensional cursor control via EMG from upper cervically-innervated muscles can be learned rapidly via deep learning driven game play. R. J. COTTON*. *Shirley Ryan Abilitylab & Northwestern.*

8:00 M38 **311.05** Interaction between position and force control in bimanual tasks in unimpaired subjects and people with multiple sclerosis. G. BALLARDINI*; V. PONASSI; E. GALOFARO; G. CARLINI; L. PELLEGRINO; F. MARINI; M. MULLER; C. SOLARO; P. MORASSO; P. GIANNONI; I. NISKY; M. CASADIO. *Univ. of Genoa, Italian Inst. of Technol., Mons. L. Novarese Hosp., Ben-Gurion Univ.*

9:00 M39 **311.06** Motor learning of novel dynamic environments for robotic rehabilitation using an exoskeleton. C. PIERELLA*; S. GUELFI; N. ROSSIGNOL; M. CASADIO; S. MICERA. *Ecole Polytechnique Federale De Lausanne (EPFL), Univ. of Genova.*

10:00 M40 **311.07** ● Robot-based static and dynamic balance assessments for planning age-tailored training protocols. G. MARCHESI*; A. CANESSA; A. DE LUCA; L. DE MICHIELI; A. PILOTTO; F. VALLONE; A. CELLA; M. SPINELLI; A. LEO; C. SANFILIPPO; V. SQUERI; J. SAGLIA; M. CASADIO. *Univ. of Genoa, UNIGE, Movendo Technol. srl, Rehab Technologies, IIT, Dept. Geriatric Care, Orthogeriatrics and Rehabilitation, E.O. Galliera Hosp., ASST Grande Ospedale Metropolitano Niguarda, Unità Spinale Unipolare.*

● Indicated a real or perceived conflict of interest, see page 150 for details.
▲ Indicates a high school or undergraduate student presenter.
* Indicates abstract's submitting author

11:00 M41 **311.08** A dysfunctional consequence of visuo-motor adaptation. I. PLENZIO; K. OH; F. RIZZOGLIO; I. NISKY; E. H. WALKER; R. A. SCHEIDT; M. CASADIO; F. A. MUSSA-IVALDI*. *Univ. of Genova, Marquette Univ., Northwestern Univ., Shirley Ryan Ability Lab., Ben-Gurion Univ.*

8:00 M42 **311.09** Proxy process models enable identification of the time course of motor learning from sparse observations. P. N. PARMAR*; J. L. PATTON. *Shirley Ryan Ability Lab., Univ. of Illinois at Chicago.*

9:00 M43 **311.10** Effects of brief exposure to velocity-based perturbations on movement performance in stroke survivors. Y. ABDEL MAJEED*; S. AWADALLA; J. L. PATTON. *Univ. of Illinois At Chicago, Univ. of Illinois at Chicago, Rehab Inst. Chicago.*

10:00 M44 **311.11** Movement distribution variables that best predict clinical assessment in stroke. Z. A. WRIGHT*; J. L. PATTON; F. C. HUANG. *Univ. of Illinois at Chicago, Shirley Ryan AbilityLab.*

11:00 N1 **311.12** Velocity error augmentation in learning a visual distortion task. F. C. HUANG*; J. L. PATTON; C. FRITSCHE. *Shirley Ryan Abilitylab, Rehab Inst. Chicago, Ecole Polytechnique Federale de Lausanne.*

8:00 N2 **311.13** The integrative role of the M1 for the motor sequence learning. Y. H. HAMANO*; S. K. SUGAWARA; M. FUKUNAGA; N. SADATO. *Natl. Inst. For Physiological Sci., Natl. Inst. for Physiological Sci., SOKENDAI.*

9:00 N3 **311.14** Altered alpha and beta oscillations in parietal and occipital cortices in chronic jaw pain. W. WANG*; R. HO; S. A. COOMBES. *Univ. of Florida.*

10:00 N4 **311.15** Neural correlates of decreased functional connectivity related to sensorimotor control dysfunction in persons with multiple sclerosis. J. WAGNER*; G. BALLARDINI; G. BOMMARITO; M. INGLESE; M. CASADIO; A. CANESSA; M. IURATO; R. A. SCHEIDT; S. A. BEARDSLEY. *Marquette Univ., Univ. of Genoa, Univ. of Genoa, Mount Sinai Sch. of Med., Univ. of Genova, Univ. of Genoa, Marquette Univ., Marquette Univ.*

11:00 N5 **311.16** Associations of cortical thickness and surface area with dexterity measures in mild cognitive impairment. S. A. CASTRO-CHAVIRA*; O. VASYLENKO; T. R. VANGBERG; M. M. GORECKA; K. K. WATERLOO; C. RODRIGUEZ-ARANDA. *Univ. of Tromsø, Univ. of Tromsø, Univ. Hosp. of North Norway, Univ. of Tromsø.*

8:00 N6 **311.17** Action planning emerges from competition between value and motor representations. J. M. FINE*; S. BOEGE; M. SANTELLO. *Arizona State Univ.*

9:00 N7 **311.18** Resting-state functional connectivity and ophthalmic changes associated with a spaceflight analogue environment. H. MCGREGOR; J. LEE; N. GADD; I. KOFMAN; Y. DEDIOS; J. BLOOMBERG; A. MULAVARA; R. D. S. SEIDLER*. *Univ. of FLorida, DLR, KBRWyle, NASA Johnson Space Ctr., Univ. of Florida.*

10:00 N8 **311.19** Neural mechanisms of obstacle avoidance: Obstacle avoidance differs from planning and execution of collision-free trajectory. J. RYU*; H. JOO; S. KIM; M. SEO; K. LEE. *Inst. for Cognitive Science, Seoul Natl. Univ., Seoul Natl. Univ., Neurosci. Res. Institute, Gachon Univ., Seoul Natl. Univ. Hosp.*

11:00 N9 **311.20** Functional neural changes in response to head-down tilt bedrest with elevated CO_2 during a sensorimotor dual task. A. D. MAHADEVAN*; K. E. HUPFELD; J. K. LEE; Y. E. DE DIOS; I. S. KOFMAN; N. E. GADD; J. J. BLOOMBERG; A. P. MULAVARA; R. D. SEIDLER. *Univ. of Florida, DLR (Deutsches Zentrum für Luft- und Raumfahrt e.V, KBRwyle, NASA Johnson Space Ctr.*

8:00 N10 **311.21** Spectral power fluctuations induced in electrocorticography during spontaneous upper-limb movements. S. M. PETERSON*; S. SINGH; R. P. N. RAO; B. W. BRUNTON. *Univ. of Washington.*

9:00 N11 **311.22** Mobile brain imaging in cooperative and competitive tennis play. T. C. HAUGE*; A. K. STUDNICKI; R. D. SEIDLER; D. P. FERRIS. *Univ. of Florida, Univ. of Florida.*

10:00 N12 **311.23** Task-evoked and spontaneous brain activity characterizes individual differences in a function dictating frequency-rhythmicity relationship. K. UEHARA*; H. TOGO; T. HANAKAWA. *Natl. Inst. for Physiological Sci., Natl. Ctr. of Neurol. and Psychiatry, Natl. Ctr. of Neurol. and Psychiatry.*

11:00 N13 **311.24** The asymmetry of antagonistic muscle systems makes equilibrium joint postures dependent on muscle strength. R. RAMADAN*; G. SCHÖNER. *Ruhr-Universität Bochum.*

8:00 N14 **311.25** Inverting a model of neuro-muscular control to estimate central commands for fast reaching movements. C. HUMMERT; G. SCHONER*. *Ruhr-Universität Bochum.*

9:00 N15 **311.26** Reconstruction of threshold muscle lengths underlying reaching movements. L. ZHANG*; G. SCHÖNER. *Ruhr Univ. Bochum.*

10:00 N16 **311.27** On the consistency of preferred movement speed. R. J. COURTER*, IV; A. A. AHMED. *Univ. of Colorado Boulder, Univ. of Colorado.*

11:00 N17 **311.28** Effect of travel effort on movement vigor during foraging. S. SUKUMAR*; R. SHADMEHR; A. A. AHMED. *Univ. of Colorado Boulder, Johns Hopkins Univ. Dept. of Biomed. Engin., Univ. of Colorado.*

POSTER

312. Cortical Planning and Execution: Neurophysiology in Humans

Theme E – Motor Systems

Mon. 8:00 AM – *McCormick Place, Hall A*

8:00 N18 **312.01** Distinct neural signals in speech preparation differentially modulate auditory responses. S. LI*; H. ZHU; X. TIAN. *East China Normal Univ., NYU-ECNU Inst. of Brain and Cognitive Sci., New York Univ. Shanghai.*

9:00 N19 **312.02** The effect of spatial and verbal working memory on different inputs to the corticospinal neuron. M. W. LENIZKY; S. K. MEEHAN*. *Univ. of Waterloo.*

10:00 N20 **312.03** Intracranial evidence for retrieval of movement goals by the hippocampus. D. M. HUBERDEAU*; C. F. A. BENJAMIN; D. D. SPENCER; J. L. GERRARD; G. MCCARTHY; N. B. TURK-BROWNE. *Yale Univ., Yale Univ., Yale Sch. of Med., Yale Sch. of Med.*

• Indicated a real or perceived conflict of interest, see page 150 for details.
▲ Indicates a high school or undergraduate student presenter.
* Indicates abstract's submitting author

11:00 N21 **312.04** Supplementary motor area activity during finger tapping with and without the pacing tone in young adults with developmental dyslexia. A. L. SMILEY-OYEN*; M. E. HARTMAN; M. L. STEPHENSON; M. A. MCDONOUGH. *Iowa State Univ.*

8:00 N22 **312.05** ▲ Realignment in visuo-proprioceptive estimates of hand position: Somatotopic specificity and the role of sensory cortices. C. R. SEIGEL*; J. L. MIRDAMADI; S. D. HUSCH; K. D. MORGAN; H. J. BLOCK. *Indiana Univ. Bloomington.*

9:00 N23 **312.06** Non-invasive transvertebral magnetic stimulation discloses residual motor function of sublesional spinal circuitry in humans with spinal cord injury. T. TAZOE*; M. SUZUKI; M. KANESHIGE; K. IWATSUKI; Y. NISHIMURA. *Tokyo Metropolitan Inst. of Med. Sci., Senbokujinnai Hosp.*

10:00 N24 **312.07** Does fMRI reveal different brain response in persons with anterior cruciate ligament reconstruction compared to controls during a novel knee proprioception test? A. STRONG*; H. GRIP; C. BORAXBEKK; C. K. HÄGER. *Umeå Univ., Umeå Univ., Copenhagen Univ. Hosp. Hvidovre.*

11:00 N25 **312.08** Neurophysiology of motor skill learning in chronic stroke. R. MOONEY*; J. CIRILLO; C. M. STINEAR; W. D. BYBLOW. *Univ. of Auckland, Univ. of Auckland, Univ. of Auckland.*

8:00 N26 **312.09** Training-related modulation of preparatory activity in the motor system. P. VASSILIADIS*; J. GRANDJEAN; G. DEROSIERE; J. DUQUE. *Univ. Catholique de Louvain, Ecole Polytechnique Fédérale de Lausanne.*

9:00 N27 **312.10** Motor imagery increments the cortico-motoneuronal excitation mediated via presumed cervical interneurons in humans. S. IRIE*; T. NAKAJIMA; S. SUZUKI; R. ARIYASU; T. KOMIYAMA; Y. OHKI. *Kyorin Univ. Sch. of Medicine, Hlth. Sci. Univ. of Hokkaido, Chiba Univ.*

10:00 N28 **312.11** The role of interhemispheric inhibition during partial cancellation of bimanual motor actions. H. MACDONALD*; C. LAKSANAPHUK; A. DAY; N. JENKINSON. *Univ. of Birmingham.*

11:00 N29 **312.12** ● Left-right asymmetry of motor cortex excitability and tsms-induced plasticity in essential tremor. C. AMMANN; D. URSO; J. A. PINEDA-PARDO; A. OLIVIERO; J. A. OBESO; G. FOFFANI*. *CINAC, Univ. Hosp. HM Puerta del Sur, Hosp. Nacional de Parapléjicos, CIBERNED, Inst. de Salud Carlos III.*

8:00 N30 **312.13** Augmented attention during physical training improves brain connectivity and motor function. S. H. SALEH*; M. GLASSEN; A. HOXHA; M. KWASNICA; D. ALLEXANDRE; G. H. YUE. *Kessler Fndn., Kessler Fndn.*

9:00 N31 **312.14** Oscillatory cortical dynamics predict successful motor preparation. B. POSTIGO-ALONSO; A. GALVAO-CARMONA; M. HOFMANN; A. KÜHN; W. NEUMANN*. *Univ. Loyola Andalucia, Charité - Universitätsmedizin Berlin, Charité - Universitätsmedizin Berlin.*

10:00 N32 **312.15** Contribution of human primary motor cortex to force variability during precision grasping. N. RAO*; J. KASS; P. J. PARIKH. *Univ. of Houston.*

11:00 N33 **312.16** The subthalamic nucleus as a potential neural driver of motor inhibition during action preparation? E. WILHELM*; G. DEROSIERE; C. QUOILIN; A. JEANJEAN; J. DUQUE. *Inst. of Neurosci., Saint-Luc Univ. Hosp.*

8:00 N34 **312.17** The neural correlates of combining submaximal contraction with motor imagery in breast cancer survivors. D. ALLEXANDRE*; A. HOXHA; S. SELVAN; S. H. SALEH; G. H. YUE. *Kessler Fndn.*

9:00 N35 **312.18** ▲ Modeling neural population dynamics informs and improves decoding of electrocorticographic signals. K. LI*; R. FLINT; M. W. SLUTZKY; C. PANDARINATH. *Emory University/Georgia Tech., Northwestern Univ., Emory Univ.*

10:00 N36 **312.19** Cortical silent period in task-irrelevant muscles is shortened during motor response preparation. I. GOMEZ*; I. GREENHOUSE. *Univ. of Oregon.*

11:00 N37 **312.20** Continuous kinematic encoding model of ECoG activity in the contralateral and ipsilateral hemisphere during a reaching task. C. M. MERRICK*; T. C. DIXON; A. BRESKA; J. LIN; E. F. CHANG; J. M. CARMENA; R. T. KNIGHT; R. IVRY. *Univ. of California, Berkeley, Univ. Of California Berkeley, Univ. of California, Irvine, UCSF, UC Berkeley.*

8:00 N38 **312.21** Evidence for sequential recruitment of contralateral PPC and motor regions for rapid online control. P. BERNIER*; D. GAUDREAULT; F. R. SARLEGNA. *Univ. De Sherbrooke, CNRS and Aix-Marseille Univ.*

9:00 N39 **312.22** Corticospinal correlates of urgent motor decisions. G. DEROSIERE*; D. THURA; P. CISEK; J. DUQUE. *Catholic Univ. of Louvain, Lyon Neurosci. Res. Ctr., Univ. of Montreal.*

10:00 N40 **312.23** Between hand coupling during response inhibition. C. G. WADLSEY; J. CIRILLO; W. D. BYBLOW*. *Univ. of Auckland.*

11:00 N41 **312.24** Conventional or threshold-hunting TMS: A twist in the tale? J. CIRILLO*; J. G. SEMMLER; R. A. MOONEY; W. D. BYBLOW. *Univ. of Auckland, Univ. of Auckland, Univ. of Adelaide.*

8:00 N42 **312.25** Directed connectivity markers for transcallosal interactions: A finger movement study. H. WEI*; A. FRANCOIS-NIENABER; J. MELTZER. *Univ. of Toronto, Rotman Res. Inst.*

9:00 N43 **312.26** Layer specific contributions to imagined and executed hand movements in primary motor cortex. A. S. PERSICHETTI*; J. A. AVERY; L. HUBER; A. LIU; E. P. MERRIAM; P. BANDETTINI; A. MARTIN. *Natl. Inst. of Mental Hlth.*

10:00 N44 **312.27** Dissociating the causal role of the dorsolateral prefrontal cortex and the dorsal premotor cortex in preparing and executing a bimanual coordination task - A neuro-navigated rTMS study. R. L. J. MEESEN*; S. VERSTRAELEN*; S. DEPESTELE; K. VAN DUN; J. DUQUE; H. FUJIYAMA; S. P. SWINNEN; O. LEVIN; M. A. NITSCHE; E. GHASEMIAN; K. CUYPERS. *Univ. Hasselt, Univ. Catholique Louv, Murdoch, K.U.Leuven, Leibniz Res. Ctr. for Working Envrn.*

11:00 N45 **312.28** Cerebellar transcranial direct current stimulation (ctDCS) to modulate cerebello-cerebral networks in bimanual coordination in young and older adults. K. VAN DUN*; S. VERSTRAELEN; S. DEPESTELE; F. MICHIELS; R. MEESEN. *Uhasselt, Univ. of Hasselt, UHasselt, Univ. Hasselt REVAL.*

8:00 N46 **312.29** The impact of cognitive functioning on driving performance of older persons: A systematic review. S. DEPESTELE*; T. BRIJS; V. ROSS; K. VAN DUN; S. VERSTRAELEN; R. MEESEN. *Hasselt Univ.*

● Indicated a real or perceived conflict of interest, see page 150 for details.
▲ Indicates a high school or undergraduate student presenter.
* Indicates abstract's submitting author

POSTER

313. Cortical Planning and Execution: Neurophysiology in Nonhuman Primates I

Theme E – Motor Systems

Mon. 8:00 AM – *McCormick Place, Hall A*

8:00 O1 **313.01** A communication subspace isolates population level interactions between motor and somatosensory cortex. M. G. PERICH*; S. CONTI; B. BARRA; S. M. WURTH; M. KAESER; J. BLOCH; G. COURTINE; S. MICERA; M. CAPOGROSSO; T. MILEKOVIC. *Univ. of Geneva, Scuola Superiore Sant'Anna, Univ. of Fribourg, EPFL - Campus Biotech B3.04, Univ. of Fribourg, CHUV, EPFL, Ecole Polytechnique Federale De Lausanne, Univ. of Fribourg, Univ. of Geneva.*

9:00 O2 **313.02** ● Causal role of motor preparation during error-driven learning. S. VYAS*; D. J. O'SHEA; S. RYU; K. V. SHENOY. *Stanford Univ., Palo Alto Med. Fndn., Howard Hughes Med. Inst. - Stanford Univers.*

10:00 O3 **313.03** Time-dependent modulation of spinal excitability during action observation in the macaque monkey. S. J. JERJIAN*; R. N. LEMON; A. KRASKOV. *UCL Queen Square Inst. of Neurol., UCL Queen Square Inst. of Neurol.*

11:00 O4 **313.04** Toward electrophysiological and behavioral effects of causal perturbations in the hand grasping network of rhesus monkeys. A. GINDRAT*; H. SCHERBERGER. *Deutsches Primatenzentrum GmbH, Univ. of Goettingen.*

8:00 O5 **313.05** The causal role of three frontal areas in object grasping. I. CAPRARA*; P. JANSSEN. *KU Leuven, Leuven Brain Inst.*

9:00 O6 **313.06** The neuroethoroom: A new tool for neurobehavioral studies in freely behaving monkeys. F. LANZARINI*; M. LANZILOTTO; L. BONINI. *Univ. of Parma.*

10:00 O7 **313.07** Calibrating temporal expectations through flexible tuning of neural dynamics. N. MEIRHAEGHE*; H. SOHN; M. JAZAYERI. *MIT, MIT, Massachusetts Inst. of Technol. Dept. of Brain and Cognitive Sci.*

11:00 O8 **313.08** ● Rapid feedback responses in primary motor cortex are sensitive to goal redundancy. K. P. CROSS*; D. J. COOK; S. H. SCOTT. *Queen's Univ., Queen's Univ., Queen's Univ.*

8:00 O9 **313.09** Encoding spaces for multiplexing movement representations across timescales in motor cortex. P. MALONIS*; N. G. HATSOPOULOS; J. N. MACLEAN. *Univ. of Chicago, Univ. of Chicago, The Univ. of Chicago.*

9:00 O10 **313.10** Neural activity of units not controlling BCI directly during a BCI task. Z. LIU*; M. H. SCHIEBER. *Univ. of Rochester, Univ. of Rochester.*

10:00 O11 **313.11** Primary motor cortex employs similar yet distinct population dynamics during locomotion and obstacle avoidance. D. Y. XING*; W. TRUCCOLO; D. A. BORTON. *Brown Univ., Brown Univ.*

11:00 O12 **313.12** Activity in macaque primary motor cortex during a motor inhibition task. T. TOHYAMA*; S. N. BAKER. *Inst. of Neuroscience, Newcastle Univ.*

8:00 O13 **313.13** ▲ Simultaneous multichannel recordings in dorsal and ventral premotor cortex during a reach-to-grasp task. S. DE SCHRIJVER*; E. PREMEREUR; T. DECRAMER; P. JANSSEN. *Kuleuven.*

9:00 O14 **313.14** Optogenetic inhibition of premotor-to-parietal projections reveals a top-down modulation in rule-based sensorimotor transformations in rhesus monkeys. H. GUO*; M. FORTUNA; J. HUEER; J. GRUBER; S. TREUE; H. SCHERBERGER; A. GAIL. *German Primate Ctr., Univ. of Goettingen, Bernstein Ctr. for Computat. Neurosci. Goettingen.*

10:00 O15 **313.15** Constraints on the time course of neural population activity. A. D. DEGENHART*; E. M. GRIGSBY; N. T. MCCLAIN; E. R. OBY; A. P. BATISTA; B. M. YU. *Univ. of Pittsburgh, Ctr. for the Neural Basis of Cognition, Univ. of Pittsburgh, Carnegie Mellon Univ.*

11:00 O16 **313.16** Chronic wireless neural population recordings in freely behaving marmosets. J. D. WALKER*; D. MOORE; M. SUNDIANG; J. N. MACLEAN; N. G. HATSOPOULOS. *Univ. of Chicago, The Univ. of Chicago, Univ. Of Chicago, The Univ. of Chicago.*

8:00 O17 **313.17** Examination of shared and non-shared neural subspaces in the primary motor cortex between active movement and brain machine interface control. S. GUPTA; S. SHEEN; V. PAPADOURAKIS; K. TAKAHASHI; N. G. HATSOPOULOS; A. J. SUMINSKI*. *Univ. of Wisconsin-Madison, Univ. of Chicago, Univ. of Wisconsin-Madison.*

9:00 O18 **313.18** ▲ Temporal basis functions reveal systematic variation in rotational dynamics in monkey M1. D. A. SABATINI*; M. T. KAUFMAN. *The Univ. of Chicago, Univ. of Chicago.*

10:00 O19 **313.19** The spatio-temporal organization of M1 activity during reaching and grasping in monkeys. N. CHEHADE*; O. A. GHARBAWIE. *Univ. of Pittsburgh.*

11:00 O20 **313.20** Emergence of lateralized population activity in motor cortex across instructed-delay and execution phases of reaching. T. C. DIXON*; C. M. MERRICK; R. T. KNIGHT; R. B. IVRY; J. M. CARMENA. *Univ. of California, Univ. of California, Univ. of California.*

8:00 O21 **313.21** ● Towards a neural population-level understanding of the effects of methylphenidate (Ritalin) in motor cortex of reaching monkeys. J. R. VERHEIN*; S. VYAS; K. V. SHENOY. *Stanford Univ. Sch. of Med., Stanford Univ., Howard Hughes Med. Inst. - Stanford Univers.*

8:00 DP08/O22 **313.22** ● (Dynamic Poster) Spatially heterogenous tuning in rhesus motor cortex revealed using neuropixels probes. E. TRAUTMANN*; D. J. O'SHEA; X. SUN; S. VYAS; S. RYU; K. V. SHENOY. *Stanford Neurosciences, Stanford Univ., Stanford Univ., Palo Alto Med. Fndn., Howard Hughes Med. Inst. - Stanford Univers.*

10:00 O23 **313.23** Inter-areal functional neuronal network dynamics in primate primary and premotor cortex during reaching and grasping movements. J. B. HYNES*; C. E. VARGAS-IRWIN; J. P. DONOGHUE. *Brown, Brown Univ.*

- ● Indicated a real or perceived conflict of interest, see page 150 for details.
- ▲ Indicates a high school or undergraduate student presenter.
- * Indicates abstract's submitting author

POSTER

314. Motor Cortex and Motor Learning

Theme E – Motor Systems

Mon. 8:00 AM – *McCormick Place, Hall A*

8:00 O24 **314.01** Intracortical paired pulse conditioning for *in-vivo* human motor cortex plasticity induction. D. J. CALDWELL; J. A. CRONIN; C. J. PASCHALL; A. B. BROWN; V. MARTINEZ; K. E. WEAVER; R. P. RAO; S. I. PERLMUTTER; A. L. KO; J. G. OJEMANN*. *Univ. of Washington, Univ. of Washington, Univ. of Washington, Univ. of Washington Sch. of Med., Univ. of Washington, Univ. of Washington, Univ. of Washington, Univ. of Washington, Univ. of Washington.*

9:00 O25 **314.02** ● Auditory spelling by an ALS patient with a fully implanted brain-computer interface. E. J. AARNOUTSE*; S. LEINDERS; Z. V. FREUDENBURG; B. VAN DER VIJGH; E. G. M. PELS; M. P. BRANCO; M. J. VANSTEENSEL; N. F. RAMSEY. *UMC Brain Center,University Med. Ctr. Utrecht.*

10:00 O26 **314.03** Oligodendrocyte and myelin loss impairs recording performance of neural interfaces in cuprizone-induced model of demyelination. S. M. WELLMAN*; K. GUZMAN; L. E. BRINK; S. SRIDHAR; J. CHARLES; L. LI; F. CAMBI; T. D. Y. KOZAI. *Univ. of Pittsburgh, Ctr. for Neural Basis of Cognition, Veterans Admin. Pittsburgh, Univ. of Pittsburgh, Univ. of Kentucky, Univ. of Pittsburgh, Univ. of Pittsburgh, Univ. of Pittsburgh Brain Inst.*

11:00 O27 **314.04** ● Transcranial wireless power and MIMO backscatter communication with multiple neural dust recording sites. D. K. PIECH*; J. M. CARMENA; M. M. MAHARBIZ. *Univ. of California Berkeley, UC Berkeley, UC Berkeley.*

8:00 O28 **314.05** ● Deep brain spatially expanded multifunctional fiber-based neural probe arrays for chronic neural interfacing. S. JIANG*; D. C. PATEL; J. KIM; S. YANG; W. A. MILLS, III; Y. ZHANG; Z. FENG; A. WANG; Y. GUO; I. KIMBROUGH; H. SONTHEIMER; X. JIA. *Virginia Tech., Fralin Biomed. Res. Inst., Virginia Tech., Tohoku Univ., Virginia Tech., Virginia Tech. Sch. of Neurosci.*

9:00 O29 **314.06** Different coating approaches to address the inflammation around the implanted neural electrode. A. GOLABCHI*; Z. J. DU; T. CUI. *Univ. of Pittsburgh.*

10:00 O30 **314.07** Examining deep neural network decoders for BCI motor control in tetraplegia. N. F. HARDY*; D. B. SILVERSMITH; S. REDDY; R. ABIRI; E. F. CHANG; S. LEVINE; A. DRAGAN; K. GANGULY. *UCSF, Univ. of California San Francisco, UC Berkeley, Univ. of California, San Francisco, UCSF.*

11:00 O31 **314.08** ● Neural signal quality and decoding performance following intracortical brain-computer interface hardware failure. C. F. DUNLAP; S. C. COLACHIS, IV; N. V. ANNETTA; D. A. FRIEDENBERG; P. D. GANZER; G. SHARMA; M. A. BOCKBRADER*. *The Ohio State Univ., Battelle Mem. Inst., Battelle Mem. Inst., The Ohio State Univ.*

8:00 O32 **314.09** Simultaneous exploration and exploitation of neural strategies during neuroprosthetic learning. A. YOU*; B. LIU; A. SINGHAL; S. GOWDA; H. G. MOORMAN; A. L. ORSBORN; J. M. CARMENA. *The UC Berkeley - UCSF Grad. Program In Bioengi, Univ. of California, Berkeley, UC Berkeley, New York Univ., UC Berkeley.*

9:00 O33 **314.10** Implementing an integrate-and-fire neural network on a closed-loop brain-computer interface. J. MISHLER*; R. YUN; S. I. PERLMUTTER; R. P. RAO; E. E. FETZ. *Univ. of Washington, Univ. of Washington, Univ. of Washington, Univ. of Washington.*

10:00 O34 **314.11** Chronic large-area neural recording using microwire arrays. A. M. O. OBAID*; Y. WU; M. HANNA; J. B. DING; N. MELOSH. *Stanford Univ., Stanford Univ., Stanford Univ. Dept. of Neurosurg., Stanford Univ.*

11:00 O35 **314.12** ● A novel bi-directional implantable brain machine interface with versatile stimulation capabilities. J. RICKERT*; S. MARTIN; C. STOLLE; F. WENZEL; O. BRUNNER; J. HOLUB; N. GRIGAT; M. OBERT; M. LEISTNER; D. GRIESHABER; J. HUMMEL; S. RIEGER. *CorTec GmbH.*

8:00 O36 **314.13** ● Clinical use of laser-micromachined cortical grid electrodes. M. SCHUETTLER*; S. BENSCH; N. F. INCE; S. PRABHU; J. RICKERT; C. HANSER; C. HENLE; A. MARX; P. ASMAN. *Cortec GmbH, Univ. of Houston, MD Anderson Cancer Ctr., Univ. of Houston.*

9:00 O37 **314.14** Low frequency spectral responses in dlPFC measured with fully implanted BCI during working memory task differ between two LIS users with different etiologies. S. LEINDERS; K. VAN DEN BERG; E. J. AARNOUTSE; M. P. BRANCO; E. G. PELS; B. VAN DER VIJGH; M. J. VANSTEENSEL; N. F. RAMSEY*; Z. V. FREUDENBURG. *UMC Utrecht-Rudolf Magnus Inst., Univ. Utrecht.*

10:00 O38 **314.15** Networking in primary motor cortex predicts arm-reaching speed variation. M. KIM*; S. CHAE; T. KIM; S. KIM. *UNIST.*

11:00 O39 **314.16** *In vivo* characterization of the stability of cortical response to electrical microstimulation. X. S. ZHENG*; Q. YANG; A. VAZQUEZ; T. CUI. *Univ. of Pittsburgh, Univ. of Pittsburgh.*

8:00 O40 **314.17** Glial cell mediated neurodegeneration surrounding the Utah electrode-tissue interface. C. BENNETT*; A. ALVAREZ-CIARA; A. PRASAD. *Univ. of Miami.*

9:00 O41 **314.18** Decoding reach speed using a hybrid artificial neural network decoder for brain-computer interfaces. H. MAO*; Y. INOUE; S. B. SUWAY; J. ORELLANA; A. B. SCHWARTZ. *Univ. of Pittsburgh, Osaka Univ. Grad. Sch. of Med., Univ. of Pittsburgh, Carnegie Mellon Univ., Univ. of Pittsburgh.*

10:00 O42 **314.19** Neural dynamics in primary motor cortex during BCI calibration in a person with tetraplegia. J. E. DOWNEY*; J. M. GOODMAN, JR; A. K. SURESH; J. L. COLLINGER; S. J. BENSMAIA. *Univ. of Chicago, Univ. of Pittsburgh, Univ. of Chicago.*

11:00 O43 **314.20** ▲ Electrophysiological and histological characterization of the foreign body response to implantable neural interfaces in the African spiny mouse brain. A. M. BRAKE*; E. ATKINSON; C. SIMMONS; M. MADEN; K. J. OTTO. *Univ. of Florida, Univ. of Florida, Univ. of Florida, Univ. of Florida, Univ. of Florida, Univ. of Florida, Univ. of Florida.*

8:00 O44 **314.21** ● High-bandwidth wireless implantable multichannel neural recording system. B. CROFTS*; A. WILDER; D. MCDONNALL; S. HIATT. *Ripple Neuro.*

- ● Indicated a real or perceived conflict of interest, see page 150 for details.
- ▲ Indicates a high school or undergraduate student presenter.
- * Indicates abstract's submitting author

9:00 P1 **314.22** *In-vitro* mechanical and electrical validation of a flexible microelectrode. R. MODI*; U. AHMED; J. FALCONE; R. SHARMA; S. ZANOS; L. RIETH. *Feinstein Inst. for Med. Res., Feinstein Inst. for Med. Res., Feinstein Inst. for Med. Res., Univ. of Utah, Feinstein Inst. for Med. Res.*

10:00 P2 **314.23** Temporally-precise vagus nerve stimulation increases motor learning of a dexterous reach task through cholinergic neuromodulation. S. G. BOWLES*; J. L. HICKMAN; X. PENG; W. R. WILLIAMSON; C. G. WELLE. *Univ. of Colorado Sch. of Med.*

11:00 P3 **314.24** Neural dynamics underlying generalization in motor cortex. V. R. ATHALYE*; P. KHANNA; S. GOWDA; A. L. ORSBORN; R. M. COSTA; J. M. CARMENA. *Columbia Univ., UCSF, UC Berkeley, Univ. of Washington, UC Berkeley.*

8:00 P4 **314.25** Home-cage based behavioral and wireless neural recording setup for unrestrained rhesus macaques. N. S. AGHA*; A. TRUNK; M. BERGER; A. M. GAIL. *German Primate Ctr., German Primate Ctr., German Primate Ctr., German Primate Ctr.*

9:00 P5 **314.26** Next-generation high-channel count neural implant arrays and modular head-mounted package for chronic human-use neuromodulation applications. R. HAQUE*; S. PATRA; J. ZHOU; M. TRIPLETT; J. PEBBLES. *Lawrence Livermore Natl. Lab.*

10:00 P6 **314.27** Neuroroots: Ultra-low profile implant for brain-machine interface. M. D. FERRO*; A. GONZALEZ; S. JAYABAL; M. GAGNON; E. ZHAO; J. L. RAYMOND; L. M. GIOCOMO; N. MELOSH. *Stanford Univ., Stanford Univ., Stanford Univ. Sch. of Med.*

11:00 P7 **314.28** Long-term stability of recordings and microstimulation of intracortical microelectrodes is depth-dependent. M. E. URDANETA*; N. G. KUNIGK; S. W. CURRLIN; J. D. PEÑALOZA-APONTE; F. DELGADO; K. J. OTTO. *Univ. of Florida, Univ. of Florida, Univ. of Florida.*

POSTER

315. Brain-Computer Interface: Intracranial

Theme E – Motor Systems

Mon. 8:00 AM – *McCormick Place, Hall A*

8:00 P8 **315.01** Decoding multiple click signals in a person with tetraplegia to increase brain-computer interface bit rate. S. N. FLESHER*; D. T. AVANSINO; L. R. HOCHBERG; J. M. HENDERSON; K. V. SHENOY. *Stanford Univ., Stanford Univ., Stanford Univ., VA RR&D Ctr. for Neurorestoration and Neurotechnology, Brown Univ., Massachusetts Gen. Hosp., Harvard Med. Sch., Brown Univ., Stanford Univ., Stanford Univ., Stanford Univ., Stanford Univ.*

9:00 P9 **315.02** Neural representation of attempted movement of a paralyzed limb in a person, and implications for intracortical brain-computer interfaces. D. R. DEO*; F. R. WILLETT; D. T. AVANSINO; S. VYAS; N. EVEN-CHEN; L. R. HOCHBERG; J. M. HENDERSON; K. V. SHENOY. *Stanford Univ., Stanford Univ., Stanford Univ., Stanford Univ., Stanford Univ., Stanford Univ., Stanford Univ., Dept. of VA Med. Ctr., Brown Univ., Massachusetts Gen. Hosp., Harvard Med. Sch., Brown Univ., Stanford Univ., Stanford Univ.*

10:00 P10 **315.03** Human middle frontal gyrus exhibits activity related to both eye movements and intended hand movements. K. G. WILCOXEN*; T. HOSMAN; J. B. HYNES; J. SAAB; B. R. BUCHBINDER; N. SHMANSKY; S. S. CASH; E. N. ESKANDAR; J. D. SIMERAL; B. FRANCO; J. KELEMAN; C. E. VARGAS-IRWIN; L. R. HOCHBERG. *Brown Univ., Brown Univ., Dept. of Veterans Affairs Med. Ctr., Brown Univ., Massachusetts Gen. Hosp., Massachusetts Gen. Hosp., Harvard Med. Sch., Massachusetts Gen. Hosp., VA Ctr. for Neurorestoration and Neurotechnology, Massachusetts Gen. Hosp.*

11:00 P11 **315.04** Motor cortical representation and decoding of attempted handwriting in a person with tetraplegia. F. R. WILLETT*; D. T. AVANSINO; D. R. DEO; L. R. HOCHBERG; J. M. HENDERSON; K. V. SHENOY. *Stanford Univ., Stanford Univ., Stanford Univ., Stanford Univ., Stanford Univ., Dept. of VA Med. Ctr., Brown Univ., Massachusetts Gen. Hosp., Harvard Med. Sch., Stanford Univ., Stanford Univ., Stanford Univ., Stanford Univ.*

8:00 P12 **315.05** Comparing human primary motor cortex (M1) and posterior parietal cortex (PPC) neuron population activity using a brain-machine interface. S. SAKELLARIDI*; T. AFLALO; V. N. CHRISTOPOULOS; K. W. PEJSA; E. ROSARIO; D. S. OUELLETTE; N. POURATIAN; R. A. ANDERSEN. *Caltech, Casa Colina Hosp. and Centers for Healthcare, UCLA.*

9:00 P13 **315.06** Identifying changes in volitional state and BCI task engagement based on the intrinsic structure of neural ensemble activity patterns in motor cortex of people with tetraplegia. T. K. PUN*; A. J. CATOYA; C. E. VARGAS-IRWIN; S. S. CASH; J. D. SIMERAL; L. R. HOCHBERG. *Brown Univ., Brown Univ., Brown Univ., Brown Univ., Dept. of VA Med. Ctr., Massachusetts Gen. Hosp., Harvard Med. Sch., Massachusetts Gen. Hosp.*

10:00 P14 **315.07** Coding of intent in M1 and PPC: Simultaneous array recordings in a human tetraplegic subject for neural prosthetic applications. T. AFLALO*; S. SAKELLARIDI; K. KADLEC; E. ROSARIO; N. POURATIAN; R. A. ANDERSEN. *Caltech, Casa Colina Hosp. and Centers For Healthcare, UCLA, Calif Inst. of Technol.*

11:00 P15 **315.08** The influence of object presence on M1 activity during movement planning and execution. A. J. HERRERA*; R. A. GAUNT; M. L. BONINGER; A. P. BATISTA; B. M. YU; S. M. CHASE; J. L. COLLINGER. *Univ. of Pittsburgh, Ctr. for the Neural Basis of Cognition, Univ. of Pittsburgh, DVA, Univ. of Pittsburgh, Carnegie Mellon Univ., Carnegie Mellon Univ.*

8:00 P16 **315.09** Modulation of M1 and S1 neurons to action observation, imagery, and execution for brain-machine interface training: Evidence from human intracortical recordings. R. W. NICKL*; T. M. THOMAS; M. C. THOMPSON; M. A. ANAYA; D. CANDREA; M. S. FIFER; D. MCMULLEN; E. A. POHLMEYER; F. TENORE; B. A. WESTER; W. S. ANDERSON; N. E. CRONE; G. L. CANTARERO; P. A. CELNIK. *Johns Hopkins Univ., Johns Hopkins Univ., Johns Hopkins Univ. Applied Physics Laborator, Johns Hopkins Applied Physics Lab., Johns Hopkins Univ. Dept. of Neurol. and Neurosurg., Johns Hopkins Applied Physics Lab., Johns Hopkins Univ. APL, Johns Hopkins Univ. Sch. of Med., Johns Hopkins Hosp., Johns Hopkins Univ., Johns Hopkins Univ.*

9:00 P17 **315.10** Intracortical microstimulation feedback improves grasp force accuracy for high forces when using a brain-computer interface. K. M. QUICK*; J. M. WEISS; R. A. GAUNT; J. L. COLLINGER. *Univ. of Pittsburgh, Ctr. for the Neural Basis of Cognition, Univ. of Pittsburgh, DVA.*

• Indicated a real or perceived conflict of interest, see page 150 for details.
▲ Indicates a high school or undergraduate student presenter.
* Indicates abstract's submitting author

10:00 P18 **315.11** Restoring the sense of touch using a sensorimotor demultiplexing brain-computer interface. P. D. GANZER*; S. COLACHIS, IV; M. A. SCHWEMMER; D. FRIEDENBERG; C. SWIFTNEY; A. JACOBOWITZ; C. DUNLAP; D. J. WEBER; M. A. BOCKBRADER; G. SHARMA. *Battelle Mem. Inst., Battelle Mem. Instutue, GE, Ohio State Univ., The Ohio State Univ., Univ. of Pittsburgh, Ohio State Univ. Col. of Med.*

11:00 P19 **315.12** Habituation of perceived intensity with intracortical microstimulation. C. L. HUGHES*; S. N. FLESHER; M. BONINGER; R. A. GAUNT. *Univ. of Pittsburgh, Stanford Univ., Univ. of Pittsburgh.*

8:00 P20 **315.13** Human brain-machine interface using bilateral sensorimotor intracortical implants. M. C. THOMPSON*; R. W. NICKL; T. M. THOMAS; M. A. ANAYA; D. N. CANDREA; D. P. MCMULLEN; W. S. ANDERSON; E. A. POHLMEYER; M. S. FIFER; F. V. TENORE; G. L. CANTARERO; N. E. CRONE; P. A. CELNIK; B. A. WESTER. *Johns Hopkins Univ. Applied Physics Lab., Johns Hopkins Univ., Johns Hopkins Univ., NIH, Johns Hopkins Univ., Johns Hopkins Univ.*

9:00 P21 **315.14** ● Similar low dimensional neural population dynamics in dorsal motor cortex during human speech and hand movements. S. D. STAVISKY*; F. R. WILLETT; P. REZAII; D. T. AVANSINO; L. R. HOCHBERG; K. V. SHENOY; J. M. HENDERSON. *Stanford Univ., Stanford Univ., Stanford Univ., Dept. of VA Med. Ctr., Brown Univ., Massachusetts Gen. Hosp., Harvard Med. Sch., Brown Univ., Stanford Univ., Stanford Univ., Stanford Univ., Stanford Univ.*

10:00 P22 **315.15** ● Classification and fitting of phonemes and words are the underlying basis of an invasive speech prosthetic that uses chronically recorded single units. P. R. KENNEDY; M. GEARING*. *Neural Signals Inc, Emory Univ.*

11:00 P23 **315.16** ▲ Changes in target-dependent neuromodulation during BCI learning. F. B. MCAFEE; A. G. ROUSE*. *Univ. of Rochester, Univ. of Rochester.*

8:00 P24 **315.17** Robot arm and hand control by neural activities from primary motor cortex in rhesus monkey. S. KIM*; H. PARK; J. SOHN. *Catholic Kwandong Univ., Catholic Kwandong Univ. Intl. St. Mary's Hosp.*

9:00 P25 **315.18** Improving decoding from high-density ECoG recordings by optimizing single-trial latent factor dynamics. R. ABIRI*; D. B. SILVERSMITH; N. NATRAJ; E. F. CHANG; K. GANGULY. *Univ. of California, San Francisco, Univ. of California San Francisco, UCSF, UCSF.*

10:00 P26 **315.19** Deep learning-based classification for rat visual cortical electrocorticogram. D. KONNO*; N. MATSUMOTO; T. SUZUKI; Y. IKEGAYA. *Grad Sch. Pharma Sci, Univ. Tokyo, Natl. Inst. of Information and Communications Technol.*

11:00 P27 **315.20** Improved classification of individual finger movements using temporal dynamics of ECoG. L. YAO; M. SHOARAN*. *Cornell Univ.*

8:00 P28 **315.21** ● A fully implantable brain machine interface for restoration of functional hand grasp in cervical SCI. N. W. PRINS*; *. I. CAJIGAS; S. GALLO; J. A. NAEEM; A. E. PALERMO; A. WILSON; L. FISHER; S. VANNI; M. E. IVAN; J. R. JAGID; A. PRASAD. *Univ. of Miami, Univ. of Miami, Univ. of Miami, Univ. of Miami.*

9:00 P29 **315.22** Laminar origin of distinct high-frequency components of cortical surface electrical potentials revealed with biophysically detailed simulations. V. L. BARATHAM*; K. E. BOUCHARD. *UC Berkeley, Lawrence Berkeley Natl. Lab.*

10:00 P30 **315.23** ● Brain-computer interface for finger movement decoding. J. GRÜNWALD; A. ZNOBISHCHEV; C. KAPELLER; K. KAMADA; J. SCHARINGER; A. CICHOCKI; C. GUGER*. *G. Tec Med. Engin. GmbH, Skolkovo Inst. of Sci. and Technol., Guger Technologies OG, Hokushin Group Megumino Hospita, Johannes Kepler Univ.*

11:00 P31 **315.24** ● Online DNN-based synthesis and recognition of isolated syllables in electrocorticography. Q. RABBANI*; S. LUO; H. HERMANSKY; N. E. CRONE. *Johns Hopkins Univ., Johns Hopkins Hosp.*

8:00 P32 **315.25** Semantic vector based decoding of natural scenes from electrocorticogram. R. FUKUMA*; T. YANAGISAWA; S. NISHIMOTO; M. TANAKA; S. YAMAMOTO; S. OSHINO; Y. KAMITANI; H. KISHIMA. *Dept. of Neurosurgery, Osaka Univ. Grad. Sch. of Med., ATR Computat. Neurosci. Labs., Osaka Univ. Hosp. Epilepsy Ctr., Ctr. for Information and Neural Networks (CiNet), Natl. Inst. of Information and Communications Technol. (NICT), Osaka Univ. Grad. Sch. of Frontier Biosci., Ctr. for Twin Research, Osaka Univ. Grad. Sch. of Med., Kyoto Univ.*

POSTER

316. Posture and Gait I

Theme E – Motor Systems

Mon. 8:00 AM – *McCormick Place, Hall A*

8:00 P33 **316.01** ● Small amounts of involuntary muscle activity reduce passive joint range of motion. J. DIONG*; S. C. GANDEVIA; D. NGUYEN; Y. FOO; C. KASTRE; K. ANDERSSON; J. E. BUTLER; M. E. HÉROUX. *The Univ. of Sydney, Neurosci. Res. Australia (NeuRA), Linköping Univ.*

9:00 P34 **316.02** A novel robot for separete body weight supported treadmill training to modulate gait patterns in patients with hemiparetic stroke. H. FUJIMOTO*; T. TERAMAE; T. NODA; A. TAKAI; N. FUJITA; M. HATAKENAKA; Y. HIRAMATSU; A. JINO; J. FURUKAWA; H. YAGURA; T. KAWANO; H. OTOMUNE; J. MORIMOTO; I. MIYAI. *Morinomiya Hosp., ATR Computat. Neurosci. Labs, Morinomiya Hosp., Osaka Univ.*

10:00 P35 **316.03** Effects of aging on muscle activation patterns and postural control during a sit-to-stand with different initial foot positions. W. JEON*; H. HSIAO; B. WREFORD; C. CORONADO; L. GRIFFIN. *The Univ. of Texas At Austin, The Univ. of Texas at Austin.*

11:00 P36 **316.04** Prolonged exposure to split-belt walking promotes energetic optimization during locomotor adaptation. N. SANCHEZ*; S. N. SIMHA; J. M. DONELAN; J. M. FINLEY. *USC, Simon Fraser Univ.*

8:00 P37 **316.05** Changes in the common synaptic drive to the ankle dorsiflexor muscle by adaptation during split-belt walking in humans. A. OSHIMA*; H. MURAI; N. TSUJIUCHI; K. KAMIBAYASHI. *Doshisha Univ.*

9:00 P38 **316.06** Effect of cognitive fatigue on static and dynamic postural control in healthy older adults and stroke. G. VARAS-DIAZ*; S. WANG; T. BHATT. *Univ. of Illinois.*

10:00 P39 **316.07** Fall risk predictors in community dwelling ambulatory stroke survivors. R. GANGWANI*; S. DUSANE; T. S. BHATT. *Univ. of Illinois At Chicago, Univ. of Illinois at Chicago, Univ. of Illinois at Chicago.*

- ● Indicated a real or perceived conflict of interest, see page 150 for details.
- ▲ Indicates a high school or undergraduate student presenter.
- * Indicates abstract's submitting author

11:00 P40 **316.08** Motor adaptation and transfer of fall resisting skills to overground slips in chronic stroke survivors- A randomized control trial. S. DUSANE*; T. S. BHATT. *Univ. of Illinois At Chicago, Univ. of Illinois at Chicago.*

8:00 P41 **316.09** Interactive perceptual support can improve postural balance. M. RUSSO*; A. KROTOV; D. STERNAD. *Northeastern Univ., Northeastern Univ., Northeastern Univ.*

9:00 P42 **316.10** Muscle synergies for murine and human locomotion. A. SANTUZ*; O. D. LAFLAMME; T. L. WELLS; A. EKIZOS; L. BRÜLL; M. SCHWENK; A. ARAMPATZIS; T. AKAY. *Dalhousie Univ., Humboldt-Universität zu Berlin, Heidelberg Univ., Heidelberg Univ.*

10:00 Q1 **316.11** Coordination between quadriceps muscles activity in rats suggests neural regulation of joint stresses and strains. C. ALESSANDRO*; D. SONG; D. TENTLER; A. PRASHARA; H. YEH; F. BARROSO; M. C. TRESCH. *Northwestern Univ., Northwestern Univ., Spanish Natl. Res. Council (CSIC), Northwestern Univ.*

11:00 Q2 **316.12** Recognition of leg muscle motion in children with cerebral palsy using off-line EMG signals. R. TANG*; C. LI; X. XIE; Z. LI. *Hainan Univ.*

8:00 Q3 **316.13** Detecting task-dependent modulation of spatiotemporal module via tensor decomposition: Application to kinematics and EMG data in locomotion and running at various speed. K. TAKIYAMA*; H. YOKOYAMA; N. KANEKO; K. NAKAZAWA. *Tokyo Univ. of Agr. and Technol., The Univ. of Tokyo.*

9:00 Q4 **316.14** Relationship between multi-joint dynamics and rambling/trembling movements of center of foot pressure during quiet standing. S. SASAGAWA*; A. IMURA. *Dept. of Human Sciences, Kanagawa Univ., Tokyo Metropolitan Univ.*

10:00 Q5 **316.15** Human body sway echoes induced by visual optic flow in VR. D. ENGEL*; A. SCHUETZ; J. SCHWENK; A. MORRIS; F. BREMMER. *Philipps-Universität Marburg, Universities of Marburg and Gießen, Monash Univ.*

11:00 Q6 **316.16** Analysis of hindlimbs locomotion kinematics in a mouse model of penetrating brain injury. L. C. LEON-MORENO*; R. CASTAÑEDA-ARELLANO; J. RIVAS-CARRILLO; G. MENDIZABAL-RUIZ; S. DUEÑAS-JIMÉNEZ. *Univ. De Guadalajara, Univ. de Guadalajara, Univ. de Guadalajara.*

8:00 Q7 **316.17** Sample entropy analysis of postural sway in early Parkinson's disease patients. G. JURAS*; A. KAMIENIARZ; J. MICHALSKA; W. MARSZAłEK; K. SłOMKA; M. RUDZIńSKA-BAR. *The Jerzy Kukuczka Acad. of Physical Educ., Andrzej Frycz Modrzewski Krakow Univ.*

9:00 Q8 **316.18** Anticipatory postural adjustment (APA) in different targeted weight shifting tasks. G. LI*; Y. CHANG; J. LIAW; J. YU; M. HSU. *Chang Gung Univ., Kaohsiung Med. Univ.*

10:00 Q9 **316.19** Characterisation and circuit analysis of anticipatory postural adjustments in mice. E. X. MORINA*; A. J. MURRAY. *Univ. Col. London.*

11:00 Q10 **316.20** Effects of anodal transcranial spinal cord direct current stimulation on locomotor adaptation to lateral pelvis perturbation in people with spinal cord injury. J. LIN*; C. HSU; W. DEE; M. WU. *Shirley Ryan Abilitylab, Shirley Ryan AbilityLab, Northwestern Univ. - Chicago.*

8:00 Q11 **316.21** Segmental coordination changes during walking with and without haptic forces. G. U. SORRENTO*; P. S. ARCHAMBAULT; J. FUNG. *McGill Univ.*

9:00 Q12 **316.22** Knee extensor fatigability during high- and low-load resistance exercise protocols in young and old adults. J. D. DELGADILLO*; C. W. SUNDBERG; M. KWON; S. K. HUNTER. *Marquette Univ.*

10:00 Q13 **316.23** Employing impedance to simplify the neural control of movement. D. LUDVIG*; M. W. WHITMORE; E. J. PERREAULT. *Northwestern Univ., Shirley Ryan AbilityLab.*

11:00 Q14 **316.24** Inverted pendulum-like stance behavior during lateral walking maneuvers in persons with and without incomplete spinal cord injury. W. L. OCHS*; J. L. WOODWARD; K. E. GORDON. *Northwestern Univ., Shirley Ryan Ability Lab., Northwestern Univ. - Chicago.*

8:00 Q15 **316.25** Effects of pramipexole on the organization of gait in the myelin mutant: The taiep rat. J. C. AHUMADA-JUÁREZ*; J. EGUIBAR; C. CORTES. *Benemérita Univ. Autónoma de Puebla, Benemerita Univ. Autonoma De Puebla, B. Univ. Autonoma de Puebla.*

POSTER

317. Afferent Control of Posture and Gait

Theme E – Motor Systems

Mon. 8:00 AM – *McCormick Place, Hall A*

8:00 Q16 **317.01** Effects of Achilles tendon vibration and foot noise on postural control. C. S. LAYNE*; B. C. LEE; P. LEUNG; D. R. TEMPLE. *Univ. of Houston, Univ. of Houston.*

9:00 Q17 **317.02** Effects of Achilles tendon vibration, fingertip light touch, and fingertip noise on postural control. D. R. TEMPLE*; B. LEE; P. LEUNG; C. S. LAYNE. *Univ. of Houston, Univ. of Houston.*

10:00 Q18 **317.03** Effects of ankle tendon vibration on lean after-effect. D. R. YOUNG*; C. S. LAYNE. *Univ. of Houston.*

11:00 R1 **317.04** Effects of levels of illumination and visual tasks on postural stability in older adults. A. CHEONG*; H. LAM; V. SUEN; C. TSANG; G. WOO; J. CHO; J. KWAN; L. A. ABEL; P. LEE; W. TSANG. *The Hong Kong Polytechnic Univ., Hong Kong Society for the Blind, UDA Consultants Ltd., Univ. of Melbourne, The Hong Kong Polytechnic Univ., The Hong Kong Polytechnic Univ.*

8:00 R2 **317.05** Electrocortical activation in patients with an acute lateral ankle sprain during balance task. J. KIM*; Y. AN; B. ARWARI; N. PATEL; K. KIM. *Univ. of Miami, New Mexico State Univ., Univ. of Miami.*

9:00 R3 **317.06** Development of an optogenetic method to stimulate gamma motor neurons *in vitro.* A. KAREKAL; S. K. BYRI; S. MASRI; N. VILLEGAS; S. HOCHMAN; K. A. WILKINSON*. *San Jose State Univ., Emory Univ. Sch. Med.*

10:00 R4 **317.07** Frequency analysis of the static postural stability after a self-mobilization exercise program. D. SHIBATA*. *Univ. of New Mexico.*

11:00 R5 **317.08** A new system to objectively measure ankle proprioception. J. HOLST-WOLF*; J. PIEKARSKI; J. KONCZAK. *Univ. of Minnesota.*

- • Indicated a real or perceived conflict of interest, see page 150 for details.
- ▲ Indicates a high school or undergraduate student presenter.
- * Indicates abstract's submitting author

8:00 R6 **317.09** What triggers modulation of proprioceptive reflexes: Environment dynamics or perturbation properties? W. MUGGE*; A. DEL VALLE HIDALGO; P. A. FORBES. *Delft Univ. of Technol., Erasmus Med. Ctr.*

9:00 R7 **317.10** Evaluating the role of electrically-evoked plantar sensation in an ambulatory searching task. B. P. CHRISTIE*; H. CHARKHKAR; C. E. SHELL; D. J. TYLER; R. J. TRIOLO. *Case Western Reserve Univ., Louis Stokes Cleveland Dept. of Veterans Affairs Med. Ctr., Cleveland Clinic, Lerner Res. Inst.*

10:00 R8 **317.11** Response patterns of mouse spinal central pattern generator neurons to stimulation of low-threshold hindlimb afferents. E. Z. LI*; D. L. GARCIA-RAMIREZ; L. YAO; K. J. DOUGHERTY. *Drexel Univ. Col. of Med.*

11:00 R9 **317.12** Plantar tactile augmentation improves lateral balance with and without cognitive load, but palmar tactile augmentation improves lateral balance only without cognitive load. J. S. AZBELL*; J. K. PARK; S. CHANG; M. ENGELEN; H. PARK. *Texas A&M Univ., Texas A&M Univ., Neurorecovery Res. Ctr. At TIRR Mem. Her.*

POSTER

318. Neuromodulation of Motor Pattern Generation

Theme E – Motor Systems

Mon. 8:00 AM – *McCormick Place, Hall A*

8:00 R10 **318.01** Molecular and circuit analysis of functions of a neuropeptide family, *Aplysia* CCK. G. ZHANG*; J. W. CHECCO; S. GUO; Y. XUE; E. V. ROMANOVA; D. H. MAST; S. QIAN; W. YUAN; K. YU; Z. YANG; F. S. VILIM; E. C. CROPPER; K. R. WEISS; J. V. SWEEDLER; J. JING. *Nanjing Univ., Univ. of Illinois at Chicago, Icahn Sch. of Med. at Mount Sinai.*

9:00 R11 **318.02** Glutamatergic and serotonergic higher order neurons drives exploratory like and avoidance locomotion in *aplysia.* K. YU; Z. YANG; S. YIN; D. LIU; G. ZHANG; R. JIA; S. GUO; W. YUAN; Y. XUE; E. C. CROPPER; K. R. WEISS; J. JING*. *Nanjing Univ., Icahn Sch. of Med. at Mount Sinai.*

10:00 R12 **318.03** Turned on by blue: Activation of pyloric neurons by light. S. KEDIA*; E. MARDER. *Brandeis Univ.*

11:00 R13 **318.04** State-dependent modulation of rhythmic motor activity by a native peptide hormone. M. P. NUSBAUM*; D. J. POWELL; E. E. MARDER. *Univ. of Pennsylvania Perelman Sch. of Med., Brandeis Univ., Brandeis Univ.*

8:00 R14 **318.05** Network neuron recruitment and coordination via distinct modulatory actions. S. H. FAHOUM*; D. M. BLITZ. *Miami Univ.*

9:00 R15 **318.06** Frequency-dependent gating of neuromodulator-activated currents. A. C. SCHNEIDER*; J. GOLOWASCH; D. BUCHER; F. NADIM. *NJIT & Rutgers U-Newark.*

10:00 R16 **318.07** Does co-modulation produce consistent circuit activity? E. CRONIN*; A. C. SCHNEIDER; F. NADIM; D. BUCHER. *New Jersey Inst. of Technol. & Rutgers University-Newark.*

11:00 R17 **318.08** Proprioceptive feedback and its modulation in a crustacean nervous system. D. GRININGER; J. T. BIRMINGHAM*. *Santa Clara Univ.*

8:00 R18 **318.09** ▲ Differential neuropeptide modulation of cell types in the lobster cardiac ganglion underlies alteration of different characteristics of patterned neuronal output. E. R. OLEISKY; J. J. HULL; A. E. CHRISTIE; P. S. DICKINSON*. *Bowdoin Col., USDA, Univ. of Hawaii.*

9:00 R19 **318.10** Lateral transverse muscles mf21-23 in *Drosophila* are targets of crustacean cardioactive peptide (CCAP). M. G. HOUPERT*; A. J. BERNDT; A. ELLIOTT; B. WHITE. *NIMH Section On Neural Function.*

10:00 R20 **318.11** Sites of CCAP neuromodulator activity in the pupal ecdysis behavioral sequence. A. J. BERNDT*; A. D. ELLIOTT; M. G. HOUPERT; B. H. WHITE. *NIH/NIMH.*

11:00 S1 **318.12** Dynamics of the Na^+/K^+ pump and dopamine within a locomotor central pattern generator. A. VARGAS*; G. S. CYMBALYUK. *Georgia State Univ., Georgia State Univ.*

8:00 S2 **318.13** Bursting mechanisms based on interplay of the Na/K pump and persistent sodium current. G. S. CYMBALYUK*; R. ERAZO; A. VARGAS; C. ERXLEBEN; A. WENNING; R. L. CALABRESE. *Georgia State Univ., Emory Univ.*

9:00 S3 **318.14** Bimodal modulation of short-term motor memory via dynamic sodium pumps in a vertebrate spinal cord. L. HACHOUMI; R. RENSNER; C. RICHMOND; K. T. SILLAR*. *Univ. St Andrews.*

10:00 S4 **318.15** The Kv7.2 (KCNQ2)-mediated M-current tunes the locomotor rhythm. J. VERNEUIL*; C. BROCARD; L. VILLARD; J. PEYRONNET-ROUX; F. BROCARD. *Inst. de Neurosciences de la Timone, CNRS UMR 7289, Marseille Med. Genet. Center, INSERM U1251.*

11:00 S5 **318.16** Data driven modeling of the rhythmogenic potential of spinal Shox2 neurons. N. HA*; N. A. SHEVTSOVA; I. A. RYBAK; K. J. DOUGHERTY. *Drexel Univ. Col. of Med.*

8:00 S6 **318.17** Spinal cord injury-induced plasticity of Shox2 interneurons following treadmill training and epidural stimulation in mouse. D. GARCIA-RAMIREZ*; N. T. HA; L. YAO; K. A. SCHMIDT; S. F. GISZTER; K. J. DOUGHERTY. *Drexel Univ. Col. of Med.*

9:00 S7 **318.18** A spinal CPG controller that is compatible with neuromodulation and homeostasis. A. I. RAMÍREZ-HINCAPIÉ; T. O'LEARY; A. FRANCI*. *Univ. Nacional Autónoma De México, Univ. of Cambridge, Dep. Matematicas, Facultad De Ciencias, UNAM.*

10:00 S8 **318.19** Fictive scratching patterns in restricted cat preparations treated with serotonine or serotonin or antagonist WAY100635. I. AGUILAR GARCÍA; L. P. OSUNA CARRASCO*; B. DE LA TORRE VALDOVINOS; J. R. LOPEZ RUIZ; R. CASTAÑEDA ARELLANO; C. TORO CASTILLO; M. TREVIÑO VILLEGAS; J. M. DUEÑAS JIMÉNEZ; S. H. DUEÑAS JIMÉNEZ. *Univ. of Guadalajara CUCS, Univ. of Guadalajara CUCEI, Univ. of Guadalajara CUTonala, Univ. of Guadalajara CUCBA.*

11:00 S9 **318.20** The effects of T-type antagonists on the genesis of motor activity in the neonatal mouse spinal cord. A. P. LOGNON*; S. A. SHARPLES; P. J. WHELAN. *Univ. of Calgary, Univ. of Calgary.*

• Indicated a real or perceived conflict of interest, see page 150 for details.
▲ Indicates a high school or undergraduate student presenter.
* Indicates abstract's submitting author

POSTER

319. Stress-Modulated Pathways: Hypothalamus, Amygdala, and Bed Nucleus

Theme F – Integrative Physiology and Behavior

Mon. 8:00 AM – *McCormick Place, Hall A*

8:00 S10 **319.01** Reproductive experience, but not neuropeptide Y (NPY), modulates stress resilience in female rats. M. R. DEJOSEPH*; M. BOMPOLAKI; M. GILLUM; B. L. AVONTS; J. E. VANTREASE; W. F. COLMERS; J. H. URBAN. *Rosalind Franklin Univ., Rosalind Franklin Univ. Med. & Sci., Rosalind Franklin Univ. of Med. and Scien, Rosalind Franklin Univ. of Med. & Sci., Univ. Alberta, Chicago Med. Sch/Rosalind Franklin Univ. Med. & Sci.*

9:00 S11 **319.02** Sex differences in the contribution of projections from the basolateral amygdala to lateral bed nucleus of the stria terminalis in anxiety-like behaviors. J. VANTREASE*; B. AVONTS; J. URBAN; J. ROSENKRANZ. *Rosalind Franklin Univ., Rosalind Franklin Univ.*

10:00 S12 **319.03** Oxytocin modulates the functional neuronal network in the oval nucleus of the bed nucleus of the stria terminalis (BNSTov) in male adult rats. W. FRANCESCONI*; F. BERTON; J. DABROWSKA. *Rosalind Franklin Univ. of Med. and Scien.*

11:00 S13 **319.04** The expression and distribution of oxytocin receptors in the dorsolateral bed nucleus of the stria terminalis ($BNST_{DL}$) and their interaction with GABA-ergic system. V. OLIVERA*; S. H. OLSON; R. CHUDOBA; J. A. DABROWSKA. *Rosalind Franklin Univ., Rosalind Franklin Univ., Rosalind Franklin Univ. of Med. and Scien, Chicago Med. Sch. RFUMS.*

8:00 S14 **319.05** Physical activity as a moderator of the relationship between stress and limbic grey matter in older adults. S. WEINER-LIGHT*; S. M. WALTERS; N. DJUKIC; M. YOU; D. COTTER; M. ALTENDAHL; C. FONSECA; Y. COBIGO; F. ELAHI; A. M. STAFFARONI; C. A. LINDBERGH; J. KRAMER; K. CASALETTO. *Univ. of California, San Francisco.*

9:00 S15 **319.06** Inhibiting the central amygdala-bed nucleus pathway 'turns-off' stress-induced visceral pain. A. C. JOHNSON*; B. GREENWOOD-VAN MEERVELD. *VA Hlth. Care Syst., Univ. of Oklahoma Hlth. Sci. Ctr., Univ. of Oklahoma Hlth. Sci. Ctr.*

10:00 S16 **319.07** The role of the amygdala in the autonomic regulation of stress and anxiety. H. H. SUBRAMANIAN*; G. HOLSTEGE. *Boston Scientific, Rijksuniversiteit Groningen.*

11:00 S17 **319.08** Voluntary exercise promotes sex-specific exploration and downregulation of neural oxytocin activity in socially isolated prairie voles. W. WATANASRIYAKUL*; M. C. NORMANN; M. COX; S. CIOSEK; S. SUJET; O. I. AKINBO; A. J. GRIPPO. *Northern Illinois Univ.*

8:00 S18 **319.09** How the hypothalamus regulate activity of solitary tract neurons and heart rate variability during psycho-emotional stress in rats? N. BEHNAM DEHKORDI*; V. SARKISIAN; E. AVETISYAN; A. PETROSYAN1; N. SAHAKYAN; S. SHOGERYAN. *Natl. Acad. of Sci. Republic of Armenia, Armenian State Pedagogical Univ.*

9:00 T1 **319.10** Transcriptional responses to repeated restraint stress exposure in male and female rats. T. J. PHILIPPE*; M. DORDEVIC; P. PAVLIDIS; T. UNDERHILL; V. G. VIAU. *Univ. British Columbia, Univ. British Columbia, Univ. British Columbia.*

10:00 T2 **319.11** Predator odor evokes stress response and fos activation in sensorial and limbic regions: Role of PACAP-PAC1 signaling for circuit interactions. L. ZHANG*; V. S. HERNÁNDEZ; S. SWEAT; L. E. EIDEN. *Av. Univ. 3000, NIH, NIMH-IRP.*

11:00 T3 **319.12** ▲ Sexually diergic effects of environmental enrichment and removal on baseline and restraint stress HPA axis responses in rats. M. E. RHODES*; G. C. NOEL; E. P. ROHM; B. R. SCHEIDER; R. T. RUBIN. *St. Vincent Col., David Geffen Sch. of Medicine, UCLA.*

8:00 T4 **319.13** A cortico-hypothalamic pathway that mediates sympathetic and behavioral responses to psychosocial stress. N. KATAOKA*; Y. SHIMA; K. NAKAMURA. *Nagoya Univ. Grad. Sch. of Med.*

9:00 T5 **319.14** Topographical and projection specific activation of basolateral amygdala neurons in response to stress. R. J. AUKEMA*; S. L. BAGLOT; B. K. LAU; G. N. PETRIE; A. S. NASTASE; M. MORENA; S. KADHIM; S. L. BORGLAND; M. N. HILL. *Univ. of Calgary, Univ. of Calgary, Univ. of Calgary, Univ. of Calgary.*

10:00 T6 **319.15** Sexually dimorphic effects of stress and age on orexin receptor mRNA expression in the paraventricular thalamic nucleus. A. VIGDERMAN*; S. LUZ; A. SHINGALA; S. BHATNAGAR. *Children's Hosp. of Philadelphia, Univ. Pennsylvania, Children's Hosp Philadelphia.*

11:00 T7 **319.16** Traumatic stress induces long lasting violent aggression through potentiation of a medial amygdala circuit. J. NORDMAN*; Z. LI. *NIH, NIMH.*

8:00 T8 **319.17** Stress responses are bidirectionally regulated through amygdalar orexin 1 and 2 receptors. J. D. W. YAEGER*; K. T. KRUPP; N. T. JONES; B. MEYERINK; T. R. SUMMERS; J. T. CAIN; C. H. SUMMERS. *Univ. of South Dakota, Sanford Res., Univ. of South Dakota.*

9:00 T9 **319.18** Brainwide mapping of stress induced neuronal activation for large cohort. H. WANG*; C. YANG; Y. SHEN; S. HUANG; L. DING; Y. CHENG; Q. ZHU; P. LAU; G. BI. *Univ. of Sci. and Technol. of China.*

10:00 T10 **319.19** Agrp and POMC neurons are involved in mediating chronic stress-induced depressive behaviors. X. FANG*; J. WANG; S. JIANG; Y. LEI; X. LU. *Augusta Univ.*

11:00 T11 **319.20** ▲ Resilience gene expression profiles and metabolic pathways in the amygdala associated with corticorsterone induced posttraumatic growth. J. LI; J. CHEN; G. WOODWARD; C. LI; E. XING; L. ZHANG; H. LI*. *Georgetown Univ., Uniformed Services Univ. of the Hlth. Sci., Uniformed Services Univ. of the Hlth. Sci.*

8:00 T12 **319.21** ▲ Genetic and endocrinological analysis of stress response and anxiety-like behavior by cross-fostered hatano rats. T. AKIMOTO*. *Meiji Univ.*

9:00 T13 **319.22** Identification of a tachykininergic projection onto melanin-concentrating hormone (MCH) neurons in the lateral hypothalamic area (LHA). A. FUJITA*; L. ZHONG; A. C. JACKSON. *Univ. of Connecticut, Univ. of Connecticut, Univ. of Connecticut.*

10:00 T14 **319.23** Endocannabinoid regulation of basolateral amygdala input to posterior tail of dorsal striatum and effects of stress. V. KONDEV*; D. MARCUS; G. BEDSE; S. PATEL. *Vanderbilt Univ.*

11:00 T15 **319.24** ▲ Pubertal- and sex-dependent changes in the activity of brain nuclei controlling hormonal stress reactivity. M. R. BAKER; R. D. ROMEO*. *Barnard Col. of Columbia Univ.*

• Indicated a real or perceived conflict of interest, see page 150 for details.
▲ Indicates a high school or undergraduate student presenter.
* Indicates abstract's submitting author

8:00 T16 **319.25** Interneuron-specific expression of α1A adrenergic receptors drives patterned inhibitory synaptic transmission in the basolateral amygdala. X. FU; J. G. TASKER. *Tulane Univ.*

9:00 T17 **319.26** Long lasting feedback inhibition of the HPA response to physical stress via glucocorticoid-induced changes in alpha-1 adrenergic receptor trafficking. G. L. WEISS*; A. NEILSON; S. NGUYEN; L. HARRISON; J. G. TASKER. *Tulane Univ.*

10:00 T18 **319.27** Glucagon-like peptide 1 receptor signaling activates identified projection neurons within the central nucleus of the amygdala. N. V. POVYSHEVA*; H. ZHENG; L. M. RINAMAN. *Univ. of Pittsburgh Dept. of Neurosci., Florida State Univ., Florida State Univ.*

11:00 T19 **319.28** Identification of a central neural circuit that regulate bone mass. F. YANG*; Y. LIU; S. CHEN; D. GAO; J. SHAO; L. WANG. *Shenzhen Inst. of Advanced Technology,CAS, Univ. of Chinese Acad. of Sci.*

POSTER

320. CRF in Stress-Modulated Pathways: Hypothalamus, Amygdala, and Bed Nucleus

Theme F – Integrative Physiology and Behavior

Mon. 8:00 AM – *McCormick Place, Hall A*

8:00 T20 **320.01** Early post hatch exposure to stressors altered growth and induced DNA hypomethylation of corticotropin releasing factor in the hypothalamic paraventricular nucleus of chicks predisposed to anorexia. Y. XIAO*; J. WANG; P. B. SIEGEL; M. A. CLINE; E. R. GILBERT. *Virginia Polytechnic Inst. and State Univ.*

9:00 U1 **320.02** Neuroactive steroid (3α,5α)3-hydroxypregnan-20-one alters the extrahypothalamic CRF signal and stress response with sex and regional specificity. G. BOERO*; I. BALAN; C. A. TODD; T. K. O'BUCKLEY; A. L. MORROW. *Univ. of North Carolina Sch. of Med.*

10:00 U2 **320.03** Anxiolytic effects of the antagonism of the CRF binding protein and the CRF receptor type 1 in the bed nucleus of stria terminalis in socially stressed male rats. M. F. VASCONCELOS*; D. J. STEIN; M. GALLAS-LOPES; L. J. B. LANDAU; L. BEHRENS; M. PACHADO; L. ALBRECHET-SOUZA; K. A. MICZEK; R. M. M. DE ALMEIDA. *Federal Univ. of Rio Grande do Sul - UFRGS, Federal Univ. of Rio Grande do Sul -UFRGS, Tufts Univ.*

11:00 U3 **320.04** Role of CRF_1 receptors in the lateral hypothalamus in cardiovascular responses during acute and repeated restraint stress. L. BARRETTO-DE-SOUZA*; R. BENINI; C. C. CRESTANI. *Faculdade De Ciências Farmacêuticas De Araraquara.*

8:00 U4 **320.05** Inhibition of calcineurin attenuates stress-induced expression of CRF and IL-2 in the central nucleus of the amygdala. P. J. RONAN*; T. I. MEHTA; T. P. BERESFORD. *VA Research/USD Sanford Sch. of Med., Denver VA/UC Denver.*

9:00 U5 **320.06** ● The role of central amygdala CRF+ neurons in conditioned place avoidance in adult Wistar rats. T. J. TEMPLETON*; M. M. WEERA; N. W. GILPIN. *LSU Hlth. Sci. Ctr., LSUHSC New Orleans, Louisiana State Univ. Hlth. Sci. Ctr.*

10:00 U6 **320.07** Vasopressin has sex-specific effects on short-term potentiation in CRH neurons after stress. S. P. LOEWEN*; J. S. BAINS. *Univ. of Calgary.*

11:00 U7 **320.08** Fear and anxiety in the hypothalamus. T. FUZESI*; D. G. ROSENEGGER; N. DAVIU; T. CHOMIAK; L. A. MOLINA; N. P. RASIAH; J. S. BAINS. *Hotchkiss Brain Inst.*

8:00 U8 **320.09** PVN-CRH neurons control innate escape behaviors. N. DAVIU*; T. FUZESI; D. ROSENEGGER; N. RASIAH; T. STERLEY; G. PERINGOD; J. BAINS. *Univ. of Calgary.*

9:00 U9 **320.10** An *in vivo* electrophysiology study of neurons in the paraventricular nucleus of the hypothalamus responding to stress. A. ICHIYAMA*; K. SCOTT; B. L. ALLMAN; W. INOUE. *Univ. of Western Ontario, Univ. of Western Ontario.*

10:00 U10 **320.11** Neuronal hypertrophy induced by repeated stress decreases the intrinsic excitability in stress habituation. S. MATOVIC; A. ICHIYAMA; H. IGARASHI; E. W. SALTER; M. S. HENRY; J. K. SUNSTRUM; X. WANG; N. VERNOUX; E. KUEBLER; J. MARTINEZ-TRUJILLO; M. TREMBLAY; W. INOUE*. *Robarts Res. Inst., Univ. of Western Ontario, Robarts Res. Inst., Univ. of Toronto, Ctr. De Recherche Du CHU De Québec, The Univ. of Western Ontario, Laval Univ., Uniersity of Western Ontario, Univ. Laval.*

11:00 U11 **320.12** Synaptic sensitization to stress mediated by hyperpolarization-activated cyclic nucleotide-gated (HCN) channels. J. K. SUNSTRUM*; E. W. SALTER; W. INOUE. *The Univ. of Western Ontario, Robarts Res. Inst., Univ. of Toronto, Univ. of Western Ontario.*

8:00 U12 **320.13** Inhibition of corticotropin-releasing factor (CRF) neurons in the oval nucleus of the bed nucleus of the stria terminalis does not affect anxiety-like behavior in adult male rats. R. CHUDOBA*; V. OLIVERA; P. LIS; C. EDMONSON; S. OLSON; J. A. DABROWSKA. *Rosalind Franklin Univ. of Med. and Sci., Ctr. for the Neurobio. of Stress Resilience and Psychiatric Disorders, Sch. of Grad. and Postdoctoral Studies, Discipline of Cell. and Mol. Pharmacol., Chicago Med. Sch. RFUMS.*

9:00 U13 **320.14** Stress experience and hormone feedback tune distinct components of CRH neuron activity. J. S. KIM*; K. J. IREMONGER. *Univ. of Otago.*

10:00 U14 **320.15** Ultradian and circadian rhythms in hypothalamic CRH neuron activity and their relation to home cage behavior. C. M. B. FOCKE*; K. IREMONGER. *Ctr. for Neuroendocrinology, Univ. of Otago.*

11:00 U15 **320.16** Sexually dimorphic corticosteroid induced plasticity in corticotropin-releasing hormone neurons. K. J. IREMONGER*; A. SHERRINGTON; J. S. KIM; J. GOUWS; D. CHANDRASEKERA. *Univ. of Otago, Univ. of Otago.*

8:00 U16 **320.17** Understanding sex differences in neural circuits controlling stress. E. M. POWER*; K. J. IREMONGER. *Univ. of Otago, Univ. of Otago.*

9:00 U17 **320.18** Functional characterization of hypothalamic CRF neuron during exposure to appetite and aversive stimuli. J. KIM*; G. SUH. *Korea Advanced Inst. of Sci. and Technol.*

10:00 U18 **320.19** Depressive-related behaviors are modulated by crf neurons of the bnst. S. E. HAYNES*; H. SEO; D. G. RAINNIE; M. HAN. *Icahn SOM At Mount Sinai, Emory, Emory Univ., Mount Sinai Sch. of Med.*

● Indicated a real or perceived conflict of interest, see page 150 for details.
▲ Indicates a high school or undergraduate student presenter.
* Indicates abstract's submitting author

11:00 U19 **320.20** A comparison of the fluorescent protein expression between different mouse lines generated by corticotropin-releasing factor gene targeting. K. ITOI*; A. H. TALUKDER; K. UCHIDA; T. SATO; S. MURASAWA; M. KAWAMURA; R. NATSUME; M. ABE; K. SAKIMURA. *Lab. Information Biol., Tohoku Univ., Brain Res. Ins. Niigata Univ.*

8:00 U20 **320.21** Corticotropin releasing factor (CRF) does not influence basal or depolarized GABA or glutamate release from a midbrain defense area. J. A. CARR*; C. M. PRATER. *Texas Tech. Univ.*

POSTER

321. Stress-Modulated Pathways: Brainstem and Others

Theme F – Integrative Physiology and Behavior

Mon. 8:00 AM – *McCormick Place, Hall A*

8:00 U21 **321.01** Ketamine rescues behavior and plasticity through dopamine systems. M. WU*; Y. KOZOROVITSKIY. *Northwestern Univ.*

9:00 U22 **321.02** Prolactin reduces chronic stress-induced depression-like behavior and increases tyrosine-hydroxylase expression in ovariectomized female rats. J. MEDINA*; D. BESWICK; R. M. DE GUZMAN; J. L. WORKMAN. *Univ. at Albany, State Univ. of New York.*

10:00 U23 **321.03** Ultrastructural analysis of corticotropin-releasing factor regulation of dopaminergic signaling in the midbrain of the macaque. E. A. KELLY*; J. L. FUDGE. *Univ. of Rochester Med. Ctr., Univ. of Rochester Med. Ctr.*

11:00 U24 **321.04** Inactivation of the deep layers of the superior colliculus disrupts prepulse inhibition in macaques. H. F. WAGUESPACK*; B. L. AGUILAR; L. MALKOVA; P. FORCELLI. *Georgetown Univ., Univ. of California, Davis.*

8:00 U25 **321.05** ▲ Effects of altitude on depressive-like behavioral responses in adult male and female rats. K. NGUYEN; C. A. GATES; J. E. HASSELL*, Jr; C. L. CHO; A. ARNOLD; A. ELSAYED; S. SALAZAR; A. LUTHENS; M. LEBLANC; S. C. ADAMS; C. A. LOWRY; J. D. REUTER. *Univ. of Colorado Boulder, Univ. of Colorado Boulder, Salk Inst., Univ. of Colorado Boulder.*

9:00 U26 **321.06** Manganese enhanced MRI (MEMRI) imaging and changes in cardiovascular reactivity implicate the dorsal raphe in modulating anxiety like behavior in DOCA/salt hypertension. J. M. WATKINS; M. FEBO; M. POMPILUS; L. F. HAYWARD*. *Univ. of Florida, Univ. of Florida.*

10:00 U27 **321.07** Identifying glucocorticoid receptor mediated mechanisms of polygene-environment interactions involved in stress sensitivity. S. PENNER-GOEKE*; S. RÖH; M. JAKOVCEVSKI; E. B. BINDER. *Max Planck Inst. of Psychiatry.*

11:00 U28 **321.08** TRPA1 KO mice show increased HPA axis sensitivity to chronic variable mild stress. V. KORMOS*; J. FARKAS; T. GASZNER; A. KECSKES; Z. HELYES; B. GASZNER; E. PINTER. *Pécs Univ., Pécs Univ.*

8:00 U29 **321.09** Stress-dependent plasticity of glutamatergic afferents to the locus coeruleus. K. BARCOMB*; C. FORD. *Univ. of Colorado Anschutz Med. Campus, Univ. of Colorado.*

9:00 U30 **321.10** Regulation of VTA GABAergic microcircuitry by chronic variable stress. C. BOUARAB*; B. THOMPSON; N. FERN; A. POLTER. *The George Washington Univ.*

10:00 U31 **321.11** VTA GABA neurons mediate sex-specific social interaction deficits after subchronic variable stress. B. THOMPSON; C. BOUARAB; A. M. POLTER*. *George Washington Univ., The George Washington Univ., George Washington Univ.*

11:00 U32 **321.12** Stress drives deliberative tendency via influences on vicarious trial-and-error and monoaminergic systems. S. AMEMIYA*; M. ISHIDA; N. KUBOTA; T. NISHIJIMA; I. KITA. *RIKEN CBS, Tokyo Metropolitan Univ.*

8:00 U33 **321.13** Noradrenergic modulation of large-scale brain networks in response to acute stress. M. KRENTZ*; H. MURALI MAHADEVAN; Z. REPPMANN; R. TOUTOUNJI; F. KRAUSE; E. J. HERMANS. *Donders Inst. For Brain, Cognition and Behaviour, Radboud Univ. Med. Ctr.*

9:00 U34 **321.14** Electrophysiological characterization of the stress response in the intact adrenal medulla. J. R. LOPEZ RUIZ*; N. PALLAS; S. ERNST; R. W. HOLZ; E. L. STUENKEL. *Univ. of Michigan, Univ. of Michigan, Univ. of Michigan.*

10:00 U35 **321.15** Neuromedin U-8 involvement in stress modulation. W. ALLAOUI*; A. DE PRINS; A. VAN EECKHAUT; S. BALLET; I. SMOLDERS; D. DE BUNDEL. *Vrije Univ. Brussel.*

11:00 U36 **321.16** ● ▲ Predator odor stress on stress and metabolic endocrine outcomes in male and female c57bl6 mice. M. L. BLOCK*; K. WILK; E. I. M. FLANDREAU. *Grand Valley State Univ., Grand Valley State Univ.*

8:00 U37 **321.17** ● ▲ Timeline for impact of high sucrose diet on plasma corticosterone and ghrelin and caloric efficicency in male and female mice. T. N. DESJARLAIS*; T. BOWIE; C. PELKE; E. I. M. FLANDREAU. *Grand Valley State Univ., Grand Valley State Univ.*

9:00 U38 **321.18** Inhibitory effect of glucose infusion on restraint stress-induced elevation of plasma adrenaline level in rats. N. YAMAGUCHI*; Y. KAKINUMA; K. MIMURA; T. YAKURA; M. NAITO; S. OKADA. *Aichi Med. Univ., Nippon Med. Sch., Aichi Med. Univ.*

10:00 U39 **321.19** Thromboxane A_2 in the paraventricular nucleus of the hypothalamus participates in 2-deoxyglucose-induced sympathetic activation in freely moving rats. S. OKADA*; M. TACHI; N. YAMAGUCHI. *Aichi Med. Univ.*

11:00 U40 **321.20** Evaluation of systemic corticosterone and VEGF in a diabetes-CUSB model. D. B. PAZ-TREJO*; K. M. NAVARRETE-VELÁZQUEZ; P. ZARATE GONZALEZ; H. SANCHEZ-CASTILLO; R. ZAMORA ALVARADO; L. D. OCHOA DE LA PAZ. *Univ. Nacional Autonoma de Mexico, Facultad de Psicologia, Sociedad Iberoamericana de Neurociencia Aplicada A.C., Univ. Nacional Autonoma de Mexico, Facultad de Psicologia, Sociedad Iberoamericana de Neurociencia Aplicada A.C., Univ. Nacional Autonoma de Mexico, Facultad de Psicologia, Hosp. Dr. Luis Sanchez Bulnes, Univ. Nacional Autonoma de Mexico, Facultad de Medicina.*

● Indicated a real or perceived conflict of interest, see page 150 for details.
▲ Indicates a high school or undergraduate student presenter.
* Indicates abstract's submitting author

POSTER

322. Stress, Cognition, and Behavior: Animal Studies

Theme F – Integrative Physiology and Behavior

Mon. 8:00 AM – *McCormick Place, Hall A*

8:00 V1 **322.01** Life course contribution of prenatal stress in modulating the prepulse inhibition of the acoustic startle reflex in an AD mouse model. Z. JAFARI*; B. KOLB; M. MOHAJERANI. *Univ. of Lethbridge, Iran Univ. of Med. Sci., Univ. of Lethbridge, CCBN.*

9:00 V2 **322.02** ● ▲ Therapeutic effects of dihydromyricetin on anxiety disorders induced by social isolation in mice. A. SHAO; X. M. SHAO; Y. OUYANG; J. SILVA; D. L. DAVIES; R. W. OLSEN; J. LIANG*. *UCLA, David Geffen Sch. Med. at UCLA, USC.*

10:00 V3 **322.03** Low estradiol protects female mice from the memory-impairing effects of multiple concurrent acute stresses. R. E. HOKENSON*; A. K. SHORT; Y. CHEN; A. L. PHAM; S. P; T. Z. BARAM. *Univ. of California Irvine, Univ. of California Irvine.*

11:00 V4 **322.04** Chronic unpredictable stress results in decreases in dendritic complexity within the medial prefrontal cortex. S. E. BULIN*; J. B. NERIOS; D. A. MORILAK. *Univ. of Texas Hlth. At San Antonio, Univ. of Texas Hlth. at San Antonio, Univ. of Texas Hlth. at San Antonio.*

8:00 V5 **322.05** Stress effects on neuronal connectivity in the orbitofrontal cortex. S. M. ADLER*; M. GIROTTI; D. A. MORILAK. *Univ. of Texas Hlth. At San Antonio, Univ. of Texas Hlth. Sci. Ctr. at San Antonio.*

9:00 V6 **322.06** Effects of stress on impulsivity measured by the 1-choice serial reaction time test. M. GIROTTI*; C. M. GEORGE; F. R. CARRENO; D. A. MORILAK. *Univ. of Texas Hlth. Sci. Ctr. at San Antonio, Univ. Hlth. Sci. Ctr. At San Antonio, UT Hlth. San Antonio, Univ. of Texas Hlth. Sci. Ctr. at San Antonio.*

10:00 V7 **322.07** ▲ Gut-brain actions underlying comorbid neuropsychiatric disturb associated with inflammatory bowel disease. S. CUZZOCREA*; E. GUGLIANDOLO; M. CORDARO; R. SIRACUSA; R. D'AMICO; A. PERITORE; R. FUSCO; R. CRUPI; D. IMPELLIZZERI; R. DI PAOLA. *Univ. of Messina.*

11:00 V8 **322.08** Olfactory bulbectomy induces learning and memory deficits associated with impaired hippocampal structural plasticity in the rat. J. C. MORALES MEDINA*; G. GALINDO-PAREDES; A. VÁZQUEZ HERNÁNDEZ; P. SÁNCHEZ-TEOYOTL; R. A. VAZQUEZ; P. AGUILAR-ALONSO; D. L. CORONA QUINTANILLA; G. FLORES. *Ctr. for Res. and Advanced Studies, BUAP, Univ. Autónoma de Tlaxcala, Univ. Autonoma de Puebla / Inst. de Fisiologia.*

8:00 V9 **322.09** Anxiety and exploratory behaviors in heterozygous SERT knockout mice exposed to enriched vs. standard housing. B. M. KILLE*; T. WOO; E. SOLIDUM; J. CUI; C. M. GREENLIEF; D. Q. BEVERSDORF. *Univ. of Missouri, Univ. of Missouri, U of Missouri-Columbia Sch. of Med., Univ. of Missouri Columbia, Univ. of Missouri Columbia.*

9:00 V10 **322.10** Inheritable vs. acquired genetic effects of chronic unpredictable variable stress on cognition and the relationship to stress resilience and vulnerability. S. H. JUNG*; N. BECHMANN; R. MOORE; C. HATCHER-SOLIS. *U.S. Air Force Res. Lab.*

10:00 V11 **322.11** ▲ Cognitive flexibility and mood disorders after chronic stress exposure. M. VARGAS-GÓMEZ*; P. TORRES CARRILLO; K. M. NAVARRETE VELAZQUEZ; O. ZAMORA AREVALO; D. B. PAZ-TREJO; H. SANCHEZ-CASTILLO. *Univ. Nacional Autónoma de México, Univ. Nacional Autónoma de México, Univ. Nacional Autónoma de México, Sociedad Iberoamericana de Neurociencia Aplicada, A.C., Univ. Nacional Autónoma de México.*

11:00 V12 **322.12** ▲ Interaction prenatal and postnatal stress in anxiety-like behavior and recognition memory of male and female offspring. C. ORIZABA-HUERTA*; D. B. PAZ-TREJO; H. SÁNCHEZ-CASTILLO. *Facultad de Psicología, Univ. Nacional Autónoma de México, Sistema Univ. Abierta, Facultad de Psicología, Univ. Nacional Autónoma de México, Sociedad Iberoamericana de Neurociencia Aplicada A. C.*

8:00 V13 **322.13** Sex differences in recognition memory after stress exposure. P. TORRES-CARRILLO*; M. VARGAS-GÓMEZ; M. D. VERGEL-MUNGUÍA; J. E. RAMÍREZ-SÁNCHEZ; D. B. PAZ-TREJO; L. D. OCHOA-DE LA PAZ; H. SANCHEZ-CASTILLO. *Univ. Nacional Autónoma de México, Facultad de Psicología, Univ. Nacional Autónoma de México, Facultad de Psicología, Univ. Nacional Autónoma de México, Facultad de Psicología, Sociedad Iberoamericana de Neurociencia Aplicada AC, Univ. Nacional Autónoma de México, Facultad de Medicina, Univ. Nacional Autónoma de México, Facultad de Psicología.*

9:00 V14 **322.14** Brain atlas of the red Mayan octopus, Octopus maya. J. F. VERGARA-OVALLE*; D. GONZÁLEZ-NAVARRETE; F. AYALA-GUERRERO; D. B. PAZ-TREJO; H. SANCHEZ-CASTILLO. *UNAM, Univ. Nacional Autonoma de Mexico, Univ. Nacional Autonoma De Mexico. Fac Psicologia.*

10:00 V15 **322.15** ▲ Outcomes of chronic stress in memory and depression-like behavior. K. M. NAVARRETE-VELÁZQUEZ*; D. B. PAZ-TREJO; M. VARGAS-GÓMEZ; P. TORRES-CARRILLO; L. D. DE LA PAZ-OCHOA; H. SANCHEZ-CASTILLO. *Univ. Nacional Autónoma De México, Facultad de Psicología, Univ. Nacional Autónoma De México, Sociedad Iberoamericana de Neurociencia Aplicada AC, Univ. Nacional Autónoma De México, Facultad de Medicina, Hosp. Dr. Luis Sánchez Bulnes, Univ. Nacional Autónoma De México, Facultad de Psicología.*

11:00 V16 **322.16** Effects of the exposure to alcohol and stress during adolescence in the behavioral response of adult rats. M. D. VERGEL-MUNGUÍA*; U. TORRES-LÓPEZ; J. E. RAMÍREZ-SÁNCHEZ; P. TORRES-CARRILLO; D. B. PAZ-TREJO; H. SANCHEZ-CASTILLO. *Univ. Nacional Autónoma de México, Facultad de Psicología, Univ. Nacional Autónoma de México, Facultad de Psicología, Sociedad Iberoamericana de Neurociencia Aplicada AC.*

8:00 V17 **322.17** ▲ Behavioral changes in octopus maya produced by acute stress exposure. D. A. GONZÁLEZ-NAVARRETE*; J. F. VERGARA-OVALLE; F. AYALA-GUERRERO; D. B. PAZ-TREJO; H. SANCHEZ-CASTILLO. *Univ. Nacional Autónoma De México, UNAM, Univ. Nacional Autónoma de México, Univ. Nacional Autonoma de Mexico, Facultad de Psicología, Sistema de Univ. Abierta, Sociedad Iberoamericana de Neurociencia Aplicada A.C., Univ. Nacional Autonoma De Mexico. Fac Psicologia.*

9:00 V18 **322.18** ▲ Behavioral effects of exposure to stress in different life times. K. B. VALENCIA*; Y. VIDAL-DE LA O; O. GALICIA-CASTILLO; D. PAZ-TREJO; H. SANCHEZ-CASTILLO. *Lab. de Neuropsicofarmacologia, UNAM, Facultad de Psicologia, UNAM, Univ. Nacional Autonoma de Mexico, Facultad de Psicologia, Sociedad Iberoamericana de Neurociencia Aplicada AC.*

- ● Indicated a real or perceived conflict of interest, see page 150 for details.
- ▲ Indicates a high school or undergraduate student presenter.
- * Indicates abstract's submitting author

10:00 V19 **322.19** Investigation of second-order conditioning as a potential mechanism of the maintenance of fear memories in a rodent model of post-traumatic stress disorder. J. M. JUDD*; E. A. SMITH; J. KIM; D. PEAY; B. S. BADARUDDIN; F. SANABRIA; C. D. CONRAD. *Arizona State Univ.*

11:00 V20 **322.20** ● A novel chronic unpredictable intermittent restraint stress paradigm disrupts spatial memory in male, but not female rats. D. N. PEAY*; B. S. BADARUDDIN; P. A. PARADA; J. M. JUDD; M. E. DONNAY; C. D. CONRAD. *Arizona State Univ., Univ. of Texas at El Paso.*

8:00 V21 **322.21** Stress-induced multi-system metabolic reprogramming in mice vulnerable to post-traumatic stress disorder (PTSD)-like behavior. G. PRESTON*; E. MORAVA-KOZICZ; T. L. KOZICZ. *Mayo Clin.*

9:00 V22 **322.22** Comparison of single or combined early life stress - Immune challenges on long term behavioral outcomes in male and female rats. L. SAAVEDRA; M. G. HERNÁNDEZ; A. OCHOA - ZARZOSA; L. TORNER*. *Inst. Mexicano del Seguro Social, Univ. Michoacana de San Nicolás de Hidalgo, Inst. Mexicano Del Seguro Social.*

10:00 V23 **322.23** ▲ Basal and stress-induced cortisol and anxiety-like behavior after cannabidiol (CBD) injection in male and female zebrafish (*Danio rerio).* N. A. OPIOLA*; M. L. PETRUNICH-RUTHERFORD. *Indiana Univ. Northwest.*

11:00 V24 **322.24** Acute effects of N-acetylcysteine on basal and stress-induced anxiety-like behavior and whole-body cortisol levels in zebrafish (*Danio rerio).* M. L. PETRUNICH-RUTHERFORD*; A. APONTE. *Indiana Univ. Northwest.*

8:00 V25 **322.25** Cerebellar antioxidant capacity is improved and cognitive function preserved in wistar rats after six weeks of high-intensity interval training. R. A. DE SOUSA*; D. A. FREITAS; E. ROCHA-VIEIRA; B. A. SOARES; A. ROCHA-GOMES; B. C. C. GARCIA; R. C. CASSILHAS; V. A. MENDONÇA; A. C. R. CAMARGOS; J. A. M. GREGORIO; A. C. R. LACERDA; H. R. LEITE. *Federal Univ. of the Valleys' Jequitinhonha and Mucuri, Federal Univ. of the Valleys' Jequitinhonha and Mucuri, Federal Univ. of the Valleys' Jequitinhonha and Mucuri, Federal Univ. of Minas Gerais, The Univ. of Sydney, Federal Univ. of the Valleys' Jequitinhonha and Mucuri.*

9:00 V26 **322.26** ▲ Effects of early life stress on development of the prefrontal cortex, amygdala, hippocampus and nucleus accumbens in Rhesus monkeys: Associations with psychostimulant escalation during adolescence? B. KOCHOIAN*; A. G. WAKEFORD; A. RATLIFF; E. R. SIEBERT; K. KUITCHOUA; E. L. MORIN; R. HONG; M. H. KYLE; S. COWAN; B. R. HOWELL; Z. KOVACS-BALINT; M. A. STYNER; L. L. HOWELL; M. A. NADER; M. SANCHEZ. *Emory Univ., Yerkes Natl. Primate Res. Center, Emory Univ., Emory Univ. Sch. of Med., Inst. of Child Develop., Univ. of North Carolina At Chapel Hill, Wake Forest Univ. Sch. Med.*

10:00 V27 **322.27** Simultaneous effects over the release of corticosterone on hippocampus, amygdala and prefrontal cortex after stress exposure. H. SANCHEZ-CASTILLO*; P. TORRES CARRILLO; A. OSTOS VALVERDE; D. B. PAZ-TREJO; F. VERGARA OVALLE; M. NAVARRETE VELAZQUEZ; M. VARGAS GOMEZ; K. B. VALENCIA FLORES. *Univ. Nacional Autonoma De Mexico. Fac Psicologia, Univ. Nacional Autónoma de México, Facultad de Psicología, Sistema Univ. Abierta, Sociedad Iberoamericana de Neurociencia Aplicada. A. C.*

POSTER

323. Reward: Neuropharmacology

Theme G – Motivation and Emotion

Mon. 8:00 AM – *McCormick Place, Hall A*

8:00 V28 **323.01** Sigma-1 receptor antagonist effects on sucrose reinforcement driven by intra-accumbens opioid and dopamine agonist administration. M. TAPIA*; J. R. LEE; M. CESSAC; K. MASON; L. RIVERA; J. BODEEN; D. K. MILLER; M. J. WILL. *Univ. of Missouri, Univ. of Missouri, Univ. of Missouri, Univ. of Missouri.*

9:00 V29 **323.02** The interaction of astrocytes and medium spiny neurons in dorsomedial striatum regulates adenosine-dependent reward-seeking behaviors. S. KANG*; S. HONG; H. LEE; D. CHOI. *Mayo Clin. Col. of Med., Natl. Cancer Ctr., Mayo Clin. Col. of Med.*

10:00 V30 **323.03** ● Measurement of response vigor in a progressive ratio task in common marmosets. T. ENOMOTO*; N. KONOIKE; K. NAKAMURA; K. IKEDA. *Sumitomo Dainippon Pharma Co., Ltd., Primate Res. Institute, Kyoto Univ.*

11:00 V31 **323.04** Varenicline, a nicotinic acetylcholine receptor partial agonist, alters reward network functional connectivity during an alcohol incentive delay task in heavy drinkers. B. W. STEVENS*; A. L. COWAND; V. VATSALYA; J. L. GOWIN; S. E. BARTLETT; M. HEILIG; R. MOMENAN; V. A. RAMCHANDANI. *Natl. Inst. on Alcohol Abuse and Alcoholism, Univ. of Louisville, Univ. of Colorado Denver, Queensland Univ. of Technol., Linköping Univ., Natl. Inst. on Alcohol Abuse and Alcoholism.*

8:00 V32 **323.05** Histone demethylase KDM6B mediates heroin craving. S. MITRA*; P. H. GOBIRA; J. A. MARTIN; S. THOMAS; C. T. WERNER; D. M. DIETZ. *State Univ. of New York at Buffalo, Univ. of São Paulo, State Univ. of New York At Buffalo, The State Univ. of New York at Buffalo, State Univ. of New York at Buffalo, State Univ. of New York.*

9:00 V33 **323.06** Influence of physical activity on diet preferences in male and female rats. J. R. LEE*; M. A. TAPIA; V. N. WEISE; E. L. BATHE; V. J. VIEIRA-POTTER; F. W. BOOTH; M. J. WILL. *Univ. of Missouri.*

10:00 V34 **323.07** Naltrexone does not alter willingness to exert effort in a monetary reward task. J. K. HOOTS*; M. C. WARDLE; H. DEWIT. *Univ. of Illinois At Chicago, Univ. of Chicago.*

11:00 V35 **323.08** ▲ Endocannabinoids are released in the VTA of male rats during copulation to satiety and activate CB1 receptors to induce a long-lasting sexual inhibition and drug hypersensitivity. E. GONZÁLEZ-MORALES*; R. GARDUÑO-GUTIÉRREZ; G. RODRÍGUEZ-MANZO. *Cinvestav-Sede Sur.*

8:00 V36 **323.09** The CRH-expressing projection pathway from the basolateral amygdala to the nucleus accumbens contributes to neurobiological mechanisms of anhedonia. M. T. BIRNIE*; A. K. SHORT; Y. CHEN; C. A. ITOGA; X. XU; T. Z. BARAM. *Univ. of California Irvine, Univ. of California Irvine.*

9:00 V37 **323.10** Dopamine receptor independent actions of dopamine on medium spiny neuron synaptic transmission in the nucleus accumbens. D. A. BURKE*; V. A. ALVAREZ. *Natl. Inst. on Alcohol Abuse and Alcoholism, Brown Univ.*

Mon. AM

● Indicated a real or perceived conflict of interest, see page 150 for details.
▲ Indicates a high school or undergraduate student presenter.
* Indicates abstract's submitting author

10:00 V38 **323.11** Methadone administered immediately after ejaculation do not inhibit the sexual behavior of the male rat. J. ROJAS-HERNÁNDEZ*; J. JUAREZ. *Univ. De Guadalajara, Univ. Guadalajara.*

11:00 V39 **323.12** ▲ Sign tracking is predictive of suboptimal behavior in a rodent gambling task. M. C. SWINTOSKY; J. T. BRENNAN; J. P. PAULUS; S. E. MORRISON*. *Univ. of Pittsburgh.*

8:00 V40 **323.13** The role of the serotonin 1B receptor in impulsivity and related behavioral constructs. S. S. DESROCHERS*; V. M. MAGALONG; J. LEE; P. D. BALSAM; K. M. NAUTIYAL. *Dartmouth Col., Barnard Coll Columbia Univ.*

9:00 V41 **323.14** Distinct effects of psychostimulant drugs on the regulation of class IIa HDACs in the mouse mesocorticolimbic and striatal systems. M. A. BERNARDI*; O. V. TORRES; M. SOSA; J. MUNIZ; F. J. URBANO; E. E. GARCIA-RILL; J. L. CADET; V. BISAGNO. *ININFA, San Diego Mesa Col., IFIBYNE-CONICET, Ctr. for Translational Neurosci, Nih/nida/Intramural Res., ININFA-CONICET.*

10:00 V42 **323.15** Endocannabinoid regulation of cue-induced incentive motivation in mesoaccumbal circuits of male rats. M. P. K. LEIGH*; M. FEJA; A. N. BAINDUR; K. T. WAKABAYASHI; M. NIPHAKIS; B. CRAVATT; C. E. BASS. *Univ. at Buffalo SUNY, Univ. of Vet. Med. Hannover, Univ. at Buffalo, SUNY, The Scripps Res. Inst.*

11:00 V43 **323.16** The effects of ketamine on sexual behavior and anxiety in female rats. S. H. MEERTS*; F. A. GUARRACI; C. M. F. GONZALEZ; M. ALI; D. LUCERO; M. BROYLES. *Carleton Col., Southwestern Univ.*

8:00 V44 **323.17** ▲ An examination of the effects of selective serotonin receptor stimulation or blockade of the ventral tegmentum on progressive ratio performance in the rat. Z. PIERCE-MESSICK*; R. VACA-TRICERRI; W. E. PRATT. *Wake Forest Univ.*

9:00 V45 **323.18** An examination of the impact of nucleus accumbens cocaine- and amphetamine-regulated transcript on palatable food intake in rat. W. E. PRATT*; A. CARNEY. *Wake Forest Univ.*

10:00 V46 **323.19** ▲ Administration of Zolmitriptan, a 5-HT1B receptor agonist, on the rewarding effects of methamphetamine in male and female adolescent rats. R. A. CABRERA; B. COYNE; N. PENTKOWSKI; A. R. ZAVALA*. *California State Univ., Univ. of New Mexico.*

11:00 W1 **323.20** Early-life ketamine administration attenuates the rewarding effects of ethanol in adolescent Sprague Dawley rats. D. FRANCO*; J. ZAMUDIO; A. R. ZAVALA. *California State Univ.*

POSTER

324. Subcortical Circuitry: Reward Seeking and Reinforcement

Theme G – Motivation and Emotion

Mon. 8:00 AM – *McCormick Place, Hall A*

8:00 W2 **324.01** Mice optimize switching behavior through cost-benefit evaluation. N. A. SCHNEIDER*; J. LISMAN; H. J. PI. *Brandeis Univ.*

9:00 W3 **324.02** Highly opioid-sensitive inhibitory afferents from the periaqueductal gray to the ventral tegmental area drive immobility. R. ST. LAURENT*; A. C. TSUDA; J. A. KAUER. *Brown Univ., Brown Univ., Stanford Univ. Sch. of Med.*

10:00 W4 **324.03** Ventral pallidum GABAergic projections to the VTA support reinforcement that is attenuated by CB1 receptor blockade. K. Z. PETERS*; K. R. CRUZ; D. P. COVEY; J. F. CHEER. *Univ. of Maryland.*

11:00 W5 **324.04** A hypothalamic circuit for behavioral thermoregulation. S. JUNG*; H. RYU; M. LEE; D. KIM; G. HEO; M. KIM; S. KIM; J. PARK; H. PARK; D. KOO; S. KIM. *Seounl Natl. Univ., Inst. of Mol. Biol. and Genet.*

8:00 W6 **324.05** Cocaine-induced increases in motivation require CB1 receptor activation in the ventral tegmental area. E. J. BEEBE*; V. M. AYVAZIAN; J. M. WENZEL; N. E. ZLEBNIK; J. F. CHEER. *Univ. of Maryland Sch. of Med.*

9:00 W7 **324.06** Ventral pallidum output pathways in cue-elicited reward seeking, reinforcement and choice. C. A. CAYTON*; D. M. FRAZEE; I. D. LIN; J. M. RICHARD. *Univ. of Minnesota.*

10:00 W8 **324.07** Circuit directionality for motivation: Lateral accumbens-pallidum, but not pallidum-accumbens, connections regulate motivational attraction to reward cues. E. SMEDLEY*; A. DILEO; K. S. SMITH. *Dartmouth Col., Tufts Sackler Sch. of Grad. Biomed. Sci., Dartmouth Col.*

11:00 W9 **324.08** Translatome analysis of ventral pallidum projection neuron subtypes. H. NAM*; M. ENGELN; R. CHANDRA; M. LOBO. *Univ. of Maryland Sch. of Med.*

8:00 W10 **324.09** Optogenetic stimulation of the lateral preoptic area drives apparent paradoxical reward and aversion. A. G. GORDON*; N. MITTAL; C. DUVAUCHELLE; M. MARINELLI. *Univ. of Texas at Austin, Univ. of Texas at Austin.*

9:00 W11 **324.10** Lateral habenula projecting hypothalamic neurons govern food preference in a leptin dependent manner. R. M. O. O'CONNOR*; M. V. MICIONI DI BONAVENTURA; M. ISHIKAWA; K. DEVARAKONDA; V. MATHIS; P. J. KENNY. *Icahn Sch. of Medicine, Mount Sinai, Univ. of Camerino, Sch. of Pharmacy, Pharmacol. Unit, Icahn Sch. of Med. at Mount Sinai, Icahn Sch. of Med. at Mount Sinai, Icahn Sch. of Med. at Mt Sinai, ICAHN Sch. of Med. at Mount Sinai.*

10:00 W12 **324.11** ▲ Lateral habenula contributions to dynamic effort-based decision-making using a plus maze motivational task. E. N. BRYANT; J. P. SEVIGNY; P. M. BAKER*. *Seattle Pacific Univ.*

11:00 W13 **324.12** Novel population of nucleus accumbens direct-pathway MSNs express stress-associated neuropeptide corticotropin releasing hormone. J. J. STOLLEY*; V. A. ALVAREZ; J. C. LEMOS. *Univ. of Minnesota, Natl. Inst. on Alcohol Abuse and Alcoholism.*

8:00 W14 **324.13** Optogenetic stimulation of nucleus accumbens circuits elicits behavioral and synaptic plasticity. A. TAYLOR*; K. M. MANZ; J. C. BECKER; B. A. GRUETER. *Vanderbilt Univ., Vanderbilt Univ. Sch. of Med.*

9:00 W15 **324.14** Sex differences in optogenetic self-stimulation of prefrontal and hippocampal inputs to the nucleus accumbens shell. E. B. LARSON*; N. M. LOPRESTI; A. D. CHAPP; K. A. SILVIS; M. J. THOMAS; P. G. MERMELSTEIN. *Univ. of Minnesota.*

• Indicated a real or perceived conflict of interest, see page 150 for details.
▲ Indicates a high school or undergraduate student presenter.
* Indicates abstract's submitting author

10:00 W16 **324.15** Accumbal endocannabinoids attenuate impulsive choice. J. F. CHEER*; J. M. WENZEL; N. E. ZLEBNIK. *Univ. of Maryland Sch. of Med., Univ. of Maryland Sch. of Med.*

11:00 W17 **324.16** Projections from oxytocin-releasing cells in paraventricular nucleus of hypothalamus to nucleus accumbens in male and female rats. L. R. HAMMERSLAG*; E. D. DENEHY; K. E. SAATMAN; M. T. BARDO. *Univ. of Kentucky, Univ. Kentucky.*

8:00 W18 **324.17** Effect of an aversive stimulus on sexual motivation depends on the susceptibility to the induction of the motivated state. C. SOTELO-TAPIA*; A. C. MEDINA; M. HERNÁNDEZ-GONZÁLEZ; R. M. HIDALGO-AGUIRRE; M. GUEVARA. *Univ. de Guadalajara, Neurobiologia Conductual y Cognitiva. Inst. de Neurobiologia-UNAM.*

9:00 W19 **324.18** Evidence for distinct populations of D1 spiny projection neuron in NHP striatum. J. HE*; M. KLEYMAN; A. ALIKAYA; E. OZTURK; K. ROTHENHOEFER; M. WIRTHLIN; L. BYRNE; A. R. PFENNING; W. R. STAUFFER. *Univ. of Pittsburgh, Carnegie Mellon, Univ. of Pittsburgh, Carnegie Mellon Univ., Univ. of Pittsburgh.*

10:00 W20 **324.19** Intermittent access to the opioid fentanyl induces amultifaceted addiction-like phenotype that is associated with an increased number of orexin/hypocretin neurons. J. E. FRAGALE*; M. H. JAMES; R. GENERALI; G. ASTON-JONES. *Rutgers Univ., Florey Inst. of Neurosci. and Mental Hlth.*

11:00 W21 **324.20** Elucidating the role of a midline thalamus projection to nucleus accumbens in reward and aversion. J. K. RIVERA IRIZARRY*; K. E. PLEIL. *Weill Cornell Med., Weill Cornell Med.*

8:00 W22 **324.21** Molecular and projection-specific dissection of subpopulations in the mouse ventral pallidum. S. C. PATE*; D. KNOWLAND; V. LILASCHAROEN; B. LIM. *UCSD, UCSD.*

9:00 W23 **324.22** Muscarinic M5 receptors modulate dopamine transmission and dopamine-dependent exploratory behavior in mice. J. A. RAZIDLO; J. C. LEMOS*. *Univ. of Minnesota.*

10:00 W24 **324.23** Investigating reward motivation and sensitivity in healthy volunteers with high versus low state anhedonia. C. L. SLANEY*; M. R. MUNAFÒ; I. PENTON-VOAK; C. J. HOUGHTON; E. S. J. ROBINSON. *Univ. of Bristol.*

11:00 W25 **324.24** ▲ Structural connectomic mapping of dorsal striatum using antibody-conjugated gold nanoparticles and x-ray microscopy. L. T. COLLINS; K. A. SILETTI; M. P. SADDORIS*. *Univ. of Colorado Boulder.*

8:00 W26 **324.25** The neural mechanism of reward and punishment modulation on visual working memory. Y. SUN*; X. CAI; Y. KU. *East China Normal Univ., New York Univ. Shanghai.*

9:00 W27 **324.26** Training squirrel monkeys on cognitive tasks for addiction studies. D. EFFINGER*; S. O. BROWN; R. A. MONTORO; H. P. JEDEMA; C. W. BRADBERRY. *NIH.*

10:00 W28 **324.27** Squirrel monkey performance on opioid/food economic choice. R. A. MONTORO*; S. O. BROWN; D. P. EFFINGER; E. THORNDIKE; H. P. JEDEMA; C. W. BRADBERRY. *NIH.*

11:00 W29 **324.28** Cortex-wide activation of VIP interneurons by reward and punishment. Z. SZADAI*; H. PI; Q. CHEVY; K. ÓCSAI; G. KATONA; B. CHIOVINI; L. POPARA; A. KEPECS; B. ROZSA. *IEM-HAS, Brandeis Univ., Cold Spring Harbor Lab., PPCU, Inst.of Exptl. Med.*

POSTER

325. Neural Mechanisms of Social Communication and Motivated Behaviors

Theme G – Motivation and Emotion

Mon. 8:00 AM – *McCormick Place, Hall A*

8:00 DP09/W30 **325.01** (Dynamic Poster) A midbrain-cortical dopamine circuit drives sexually-motivated singing. M. BEN-TOV*; F. DUARTE; R. D. MOONEY. *Duke Univ. Dept. of Neurobio.*

9:00 W31 **325.02** Ultrasonic calling in response to playback of appetitive 50-kHz ultrasonic vocalizations in rats. A. C. BERZ*; T. M. KISKO; C. H. CHEN; M. WÖHR; R. K. W. SCHWARTING. *Philipps-University Marburg.*

10:00 W32 **325.03** Identification of forebrain inputs to a midbrain vocalization circuit that promote and suppress the production of social vocalizations. K. A. TSCHIDA*; V. C. MICHAEL; J. TAKATOH; S. ZHAO; B. HAN; F. WANG; R. D. MOONEY. *Duke Univ., Duke Univ.*

11:00 W33 **325.04** Descending control of vocalization in the mouse brain. V. C. MICHAEL*; K. A. TSCHIDA; J. TAKATOH; S. ZHAO; F. WANG; R. D. MOONEY. *Duke Univ., Duke Univ., Duke Univ. Dept. of Neurobio.*

8:00 W34 **325.05** Differing release patterns of dopamine and acetylcholine in the mouse basolateral amygdala in response to emotion-laden vocal sequences. Z. GHASEMAHMAD*; J. J. WENSTRUP. *Northeast Ohio Med. Univ. (NEOMED).*

9:00 W35 **325.06** ▲ Muscarinic and glutamatergic regulation of self-grooming behavior and ultrasonic vocalizations in the context of open-field habituation in rats. J. C. BRENES*; J. CHINCHILLA; R. LEANDRO; J. FORNAGUERA; M. ROJAS-CARVAJAL. *Univ. of Costa Rica, Univ. of Costa Rica, Univ. of Costa Rica.*

10:00 W36 **325.07** Mu opioid receptors in the medial preoptic area govern social play behavior in adolescent male rats. C. ZHAO*; L. CHANG; A. AUGER; L. RITERS. *Univ. of Wisconsin-Madison, Univ. of Wisconsin-Madison.*

11:00 W37 **325.08** Strain dependent effects of maternal behavior on hypothalamic oxytocin neurons. J. A. GENTES; S. M. SIVIY*. *Gettysburg Col.*

8:00 W38 **325.09** Nmda-lesions in the prefrontal cortex delay the onset of maternal behavior in adult female, but not infanticidal behavior in male mice (c57bl/6). M. ALSINA-LLANES*; D. E. OLAZABAL. *Facultad de Medicina, Univ. de la República.*

9:00 W39 **325.10** Temporal and spatial circuit activity dynamics in the interpeduncular nucleus differentially signal novelty and familiarity. S. MOLAS*; R. ZHAO-SHEA; P. KLENOWSKI; A. R. TAPPER. *Univ. of Massachusetts Med. Sch.*

10:00 W40 **325.11** Transcriptomic regulations underlying pair bond maintenance in the socially monogamous prairie voles. F. DUCLOT*; L. SAILER; P. KOUTAKIS; Y. LIU; Z. WANG; M. KABBAJ. *Florida State Univ., Florida State Univ., Florida State Univ., Florida State Univ.*

• Indicated a real or perceived conflict of interest, see page 150 for details.
▲ Indicates a high school or undergraduate student presenter.
* Indicates abstract's submitting author

8:00 DP10/W41 **325.12** (Dynamic Poster) Automated analysis of prosocial and aggressive behaviours using computer vision and machine learning. S. R. O. NILSSON*; J. J. CHOONG; S. A. GOLDEN. *Univ. of Washington.*

8:00 W42 **325.13** Oxytocin-dependent reopening of a social reward learning critical period with MDMA. R. NARDOU*; E. M. LEWIS; R. ROTHHAAS; R. XU; A. YANG; E. S. BOYDEN; G. DÖLEN. *Johns Hopkins Univ., MIT.*

9:00 W43 **325.14** Correlated neural activity and encoding of behavior across brains of socially interacting individuals. L. KINGSBURY*; S. HUANG; J. WANG; K. GU; P. GOLSHANI; Y. E. WU; W. HONG. *UCLA.*

10:00 W44 **325.15** Modulation of social behavior by mu opioid receptors in the brain reward network. C. T. TODDES*; P. E. ROTHWELL. *Univ. of Minneosta, Univ. of Minnesota.*

11:00 X1 **325.16** Effect of lOFC lesion on social value unblocking of Pavlovian reinforcement learning in male rats. S. VAN GURP*; J. HOOG; T. KALENSCHER; M. VAN WINGERDEN. *Heinrich Heine Univ., Heinrich Heine Univ., Univ. of Duesseldorf, Heinrich-Heine Univ. Düsseldorf.*

8:00 X2 **325.17** Hypothalamic vasopressin regulates social behavior in female mice. N. RIGNEY*; J. WHYLINGS; G. J. DE VRIES; A. PETRULIS. *Georgia State Univ., Georgia State Univ.*

9:00 X3 **325.18** ▲ Manganese as contrast medium and its effects in the behavior of male rats for longitudinal studies. J. A. AGUILAR MORENO*, Jr.; M. A. VEGA SOLACHE; E. CABRERA; R. G. PAREDES. *Inst. De Neurobiología, Insituto de Neurobiología, Inst. De Neurobiologia UNAM.*

10:00 X4 **325.19** Brief social isolation increases social interaction and cortical drive of basolateral amygdala activity. N. C. FERRARA*; M. PADIVAL; J. A. ROSENKRANZ. *Rosalind Franklin Univ. of Med. and Scien.*

11:00 X5 **325.20** The motivation to seek social contact versus food differs with age and between rats and mice. C. J. REPPUCCI*; A. Q. CHAMBERS; L. A. BROWN; A. H. VEENEMA. *Michigan State Univ.*

8:00 X6 **325.21** Sex differences in juvenile social recognition: Role of oxytocin in the bed nucleus of the stria terminalis. K. E. YOEST*; M. G. HENRY; R. BREDEWOLD; A. H. VEENEMA. *Michigan State Univ.*

9:00 X7 **325.22** Role of vasopressin in the ventral pallidum in regulating social play behavior in juvenile male and female rats. J. D. A. LEE*; R. BREDEWOLD; A. H. VEENEMA. *Michigan State Univ.*

10:00 X8 **325.23** Regulation of social play behavior by oxytocin in the nucleus accumbens of juvenile male and female rats. R. BREDEWOLD*; S. PROANO; A. SCAZZERO; J. MEITZEN; A. H. VEENEMA. *Michigan State Univ., North Carolina State Univ.*

11:00 X9 **325.24** Probing the neuronal circuitry of social hierarchy. E. M. AMELCHENKO*; D. SMAGIN; S. SHUVAEV; K. UMADEVI VENKATARAJU; P. OSTEN; N. KUDRYAVTSEVA; A. KOULAKOV; G. N. ENIKOLOPOV. *Stony Brook Univ., Inst. of Cytology and Genet., Cold Spring Harbor Lab.*

8:00 X10 **325.25** Habenula and periaqueductal gray represent eye contact established by emotional history. H. LEE*; K. MAEDA; O. HIKOSAKA. *Natl. Eye Inst.*

9:00 X11 **325.26** Investigation on whether rule-violating behavior can be improved into rule-observing strategy. J. BYUN*; A. ALKAHWAJI; H. SHIN. *IBS, Univ. of Sci. and Technol.*

10:00 X12 **325.27** Prefrontal mechanisms for tracking group behavior, reputation, and identity during three-agent itneraction in macaques. R. BÁEZ-MENDOZA*; E. P. MASTROBATTISTA; A. J. WANG; Z. WILLIAMS. *Massachusetts Gen. Hospital-Harvard Med. Sch.*

11:00 X13 **325.28** Neurons in the primate amygdala simulate decision processes of social partners. F. GRABENHORST*; R. BAEZ-MENDOZA; W. GENEST; G. DECO; W. SCHULTZ. *Univ. of Cambridge, Univ. Pompeu Fabra.*

POSTER

326. Emotion: Fear, Anxiety, and Pain I

Theme G – Motivation and Emotion

Mon. 8:00 AM – *McCormick Place, Hall A*

8:00 X14 **326.01** Chronic stress induces anxiety-associated negative valence behaviors by activating a corticotropin-releasing hormone-related molecular signature in oval bed nucleus of the stria terminalis. P. HU*; I. MAITA; C. KWOK; E. GU; M. GERGUES; J. LIU; M. PHAN; Z. PANG; D. F. SWAAB; P. J. LUCASSEN; T. A. ROEPKE; B. A. SAMUELS. *Rutgers Univ., Rutgers University, Rutgers Robert Wood Johnson Med. Sch., Netherlands Inst. for Neurosci., Univ. of Amsterdam, Rutgers Univ.*

9:00 X15 **326.02** Dissecting the role of basolateral amygdala CRF neurons in learned and innate fear. N. V. LUCHKINA*; V. Y. BOLSHAKOV. *Psychiatry, McLean Hospital, Harvard Med. Sch.*

10:00 X16 **326.03** Serotonin transporter polymorphism (5-HTTLPR) biases neurophysiological response to threatening voices. C. CHEN*; R. M. MARTÍNEZ; C. CHAN; T. LIAO; Y. CHENG. *Taipei Med. Univ., Natl. Yang-Ming Univ.*

11:00 X17 **326.04** Increased evoked phasic dopamine release in the nucleus accumbens shell during sustained pain. T. A. GEE*; N. C. WEINTRAUB; E. NAVRATILOVA; D. LU; M. L. HEIEN; F. PORRECA. *Univ. of Arizona, Univ. of Arizona.*

8:00 X18 **326.05** The effects of delta-9-tetrahydrocannabinol and cannabidiol on anxiety end emotional memory are regulated via dissociable intra-amygdala modulation of neuronal activity and oscillation states in ventral hippocampal and prefrontal cortical projections. H. J. SZKUDLAREK*; B. PEREIRA; M. DE FELICE; B. RASHEED; T. JUNG; S. N. WHITEHEAD; S. R. LAVIOLETTE. *Univ. of Western Ontario.*

9:00 X19 **326.06** Fear conditioning regulates endocannabinoid degradation. M. A. FAROOQ*; J. LIU. *Louisiana State Univ. Hlth. Sci. Ctr.*

10:00 X20 **326.07** Role of PSD95 and nNOS interaction in gene regulation following fear conditioning and implications for molecular mechanisms underlying PTSD. J. PATEL*; A. I. MOLOSH; E. T. DUSTRUDE; A. SHEKHAR. *Indiana Univ. Sch. of Med., IU Sch. of Medicine, Indiana Univ. Sch. of Med., Indiana Univ. Sch. of Med.*

- • Indicated a real or perceived conflict of interest, see page 150 for details.
- ▲ Indicates a high school or undergraduate student presenter.
- * Indicates abstract's submitting author

11:00 X21 **326.08** Adenosine A_2A receptors control the extinction of fear memories. S. L. REIS; V. LOURENÇO; R. A. CUNHA; P. M. CANAS; A. P. SIMÕES*. *Ctr. for Neurosci. and Cell Biol., Ctr. for Neurosci. and Cell Biology; Fac. of Medicine-University of Coimbra.*

8:00 X22 **326.09** ▲ Anxiolytic effect of ethanol on locomotor activity in rats. L. MANZO*; A. C. TAFOLLA; A. GORDILLO; C. TORRES. *Univ. Michoacana De San Nicolas De Hidalgo, Univ. Michoacana de San Nicolas de Hidalgo, Univ. of Jaen.*

8:00 DP11/X23 **326.10** (Dynamic Poster) Neural control of organized escape from multimodal threats. W. WANG; P. J. SCHUETTE; B. TOBIAS; J. NAGAI; F. M. REIS; A. L. SEVERINO; M. CHAKERIAN; L. LIN; S. LEONARD; M. SEHGAL; A. J. SILVA; C. J. EVANS; C. M. CAHILL; B. S. KHAKH; A. ADHIKARI*. *UCLA, UCLA, Univ. of California Los Angeles Dept. of Physiol., Univ. of California Los Angeles, Univ. of California Los Angeles, UCLA Med. Ctr., UCLA.*

10:00 X24 **326.11** The medial cerebellar nucleus augments IPSC amplitude in the ventrolateral periaqueductal gray freezing circuit by activating local dopaminergic neurons. C. E. VAAGA*; I. M. RAMAN. *Northwestern Univ.*

11:00 X25 **326.12** Dissecting projection-specific contributions of the zona incerta to fear. A. VENKATARAMAN*; B. G. DIAS. *Emory Univ., Emory Univ., Yerkes Natl. Primate Res. Ctr.*

8:00 X26 **326.13** Optogenetic manipulation of ventral hippocampal parvalbumin interneurons during innate and learned fear. W. CHANG*; J. C. JIMENEZ; E. Z. AKGUNGOR; K. S. OTTE; J. D. BARBOSA; A. Z. HARRIS; R. HEN. *Columbia Univ/New York State Psychiatric Inst., Columbia Univ., Emory Univ.*

9:00 X27 **326.14** Parallel hippocampal-to-amygdala circuits distinct reactions from innate to learned threat. Y. GU*; M. WU; L. WANG; L. LIN. *East China Normal Univ.*

10:00 X28 **326.15** Encoding fear of heights by single neurons in basolateral amygdala. J. LIU*; L. LIN; D. V. WANG. *Drexel Univ. Col. of Med., East China Normal Univ., Drexel Univ.*

11:00 X29 **326.16** Apical intercalated cell cluster: A novel sensory regulator in the amygdala. D. ASEDE; D. DODDAPANENI; A. CHAVEZ; J. OKOH; S. ALI; M. BOLTON*. *Max Planck Florida Inst.*

8:00 X30 **326.17** Reshaping fronto-amygdalar circuitry through electrically forced hebbian plasticity. F. J. DA SILVA*; M. J. SCHATZA; E. B. BLACKWOOD; M. LO; A. S. WIDGE. *Univ. of Minnesota.*

9:00 X31 **326.18** Environmental enrichment reverses anxiogenic-like behavior induced by cohabitation with mice submitted to chronic neuropathic pain. I. M. CARMONA*; P. E. CARNEIRO DE OLIVEIRA; A. CANTO-DE-SOUZA. *Dept Psychology-Psycobiology group/UFSCar, Joint Grad. Program in Physiological Sci. UFSCar/UNESP, Grad. Program in Psychology/UFSCar.*

10:00 X32 **326.19** Inhibition of the left medial prefrontal cortex (mPFC) prolongs the anxiogenic effect induced by social defeat in mice: Modulation by NMDA receptors in the right hemisphere. R. L. NUNES-DE-SOUZA*; N. SANTOS-COSTA; D. C. MASCARENHAS; G. VICTORIANO. *Univ. Estadual Paulista, UNESP, Univ. Estadual Paulista - UNESP.*

11:00 X33 **326.20** Dissimilar activation pattern of the anterior cingulate cortex, insula and amygdaloid complex in the modulation of pain empathy in mice. A. CANTO-DE-SOUZA*; D. BAPTISTA-DE-SOUZA; R. NUNES-DE-SOUZA. *Psychobiology Group, Dept of Psychology, UFSCar, Grad. Program in Psychology/UFSCar, Joint Grad. Program in Physiological Sci. UFSCar/UNESP, Pharmacol, FCF/Unesp.*

8:00 X34 **326.21** Chemical inactivation of the anterior cingulate cortex produces an anxiolytic-like effect in mice exposed to the model of empathy for pain. G. B. CEZAR*; L. M. SILVEIRA; L. A. ROSA; I. M. CARMONA; A. CANTO-DE-SOUZA. *Dept Psychology-Psycobiology Group/UFSCar, Grad. Program in Psychology/UFSCar, Joint Grad. Program in Physiological Sci. UFSCar/UNESP.*

9:00 X35 **326.22** The inactivation of the anterior cingulate cortex provokes an anxiolytic-like effect and impairs the evocation of the aversive memory in mice exposed to a model of posttraumatic stress disorder. L. A. ROSA*; L. M. SILVEIRA; G. B. CEZAR; A. CANTO-DE-SOUZA. *Dept Psychology-Psychobiology Group/Universidade Federal de São Carlos-UFSCar, Grad. Program in Psychology/UFSCar, Joint Grad. Program in Physiological Sci. UFSCar/UNESP.*

10:00 X36 **326.23** N-methyl-d-aspartate (NMDA) receptor activation in the left prelimbic (but not inflralimbic) cortex restores social interaction in cronically defeated mice. N. SANTOS-COSTA*; M. MATTHIESEN; R. L. NUNES-DE-SOUZA. *Univ. Estadual Paulista - UNESP, Unesp, Univ. Estadual Paulista, UNESP.*

11:00 X37 **326.24** ▲ Empathy for pain: Interplay between antagonist $5\text{-}HT_3$ and benzodiazepine/$GABA_A$ receptors in amygdala modulates nociceptive response in cagemate that cohabited with a mice undergoing neuropathic pain. L. R. R. TAVARES*; D. BAPTISTA-DE-SOUZA; A. CANTO-DE-SOUZA. *Dept Psychology-Psycobiology Group/UFSCar, Joint Grad. Program in Physiological Sci. UFSCar/UNESP, Grad. Program in Psychology/UFSCar.*

8:00 X38 **326.25** The effect of glyphosate-based herbicide on locomotion and anxiety-like behavior in rats. M. CÁCERES-CHACÓN*; O. MARTÍNEZ-GUZMÁN; M. RIVERA-LÓPEZ; D. M. OJEDA-MARTÍNEZ; R. Y. RAMOS-SÁNCHEZ; C. J. REYES-SEPÚLVEDA; P. ALVELO-FERNÁNDEZ; D. SIERRA-MERCADO. *Univ. of Puerto Rico Sch. of Med., Univ. of Puerto Rico Rio Piedras, Univ. of Puerto Rico Bayamon.*

9:00 X39 **326.26** ▲ Effects of atrazine on locomotion and anxiety-like behavior. R. Y. RAMOS-SÁNCHEZ*; M. RIVERA-LÓPEZ; M. CÁCERES-CHACÓN; O. MARTINEZ-GUZMAN; P. ALVELO-FERNÁNDEZ; C. J. REYES-SEPÚLVEDA; D. OJEDA-MARTÍNEZ; D. SIERRA-MERCADO. *Univ. of Puerto Rico Rio Piedras Campus, Univ. Puerto Rico Sch. of Med., Univ. of Puerto Rico Bayamón.*

POSTER

327. Consequences of Alcohol and Drug Exposure During Development

Theme G – Motivation and Emotion

Mon. 8:00 AM – *McCormick Place, Hall A*

8:00 X40 **327.01** Perinatal exposure to drugs of abuse causes permanent aberrations in somatosensory circuits. J. B. ALIPIO*; Y. LI; D. EL-METWALLY; M. PICCIOTTO; A. KELLER. *Univ. of Maryland Sch. of Med., Yale Univ. Sch. Med.*

• Indicated a real or perceived conflict of interest, see page 150 for details.
▲ Indicates a high school or undergraduate student presenter.
* Indicates abstract's submitting author

9:00 X41 **327.02** Buprenorphine exposure during gestation results in dose-dependent consequences for the dam and her litter in a translational model of opioid-maintenance therapy. C. M. WALLIN*; S. E. BOWEN; S. BRUMMELTE. *Wayne State Univ.*

10:00 X42 **327.03** Effects of prenatal cocaine exposure in the neurodevelopment of DAT-Cnr2 and Cx3cr1-Cnr2 conditional knockout mice. A. CANSECO-ALBA*; M. A. HAMMOUDA; Q. LIU; E. S. ONAIVI. *CINVESTAV-IPN, William Paterson Univ., LCI/NIA/NIH, William Paterson Univ.*

11:00 X43 **327.04** Prenatal exposure to opioid maintenance treatment reduces cognitive performance in young adult rats. M. KONGSTORP*; I. BOGEN; T. STIRIS; J. M. ANDERSEN. *Oslo Univ. Hosp., Univ. of Oslo, Univ. of Oslo, Oslo Univ. Hosp., Univ. of Oslo.*

8:00 X44 **327.05** Transgenerational epigenetic inheritance associated with prescription opioids abuse: How far has the apple fallen from the tree? K. ODEGAARD; V. SCHAAL; D. MOORE; A. CLARK; G. PENDYALA; S. V. YELAMANCHILI*. *Univ. of Nebraska Med. Ctr., Univ. of Nebraska Med. Ctr., Univ. of Nebraska Med. Ctr., Creighton Univ.*

9:00 X45 **327.06** Assessing physiological and behavioral changes in rodents following *in utero* opioid exposure. S. STEVENS*; S. MOHAN. *Manchester Col. of Pharm., Marshall Univ. Sch. of Pharm.*

8:00 DP14/X46 **327.07** (Dynamic Poster) Using human brain organoids to model prenatal buprenorphine exposure. J. J. DONEGAN*; H. ELAM; V. NIETO-ESTEVEZ; C. MCMAHON; J. HSIEH; D. LODGE. *Univ. of Texas Hlth. Sci. Ctr. at San Antonio, Univ. of Texas at San Antonio.*

11:00 Y1 **327.08** Characterizing the impact of prenatal drug exposure on emotion processing: Findings from the ABCD study. A. WAGNER*; A. RAMAKRISHNAN; I. IVANOV; M. A. PARVAZ. *Icahn Sch. of Med. At Mount Sinai, Rutgers Sch. of Hlth. Professions, Icahn Sch. of Med. at Mount Sinai.*

8:00 Y2 **327.09** Alcohol and tobacco use during pregnancy: A Native American perspective. R. C. ROSENTHAL*; K. E. CONNER; K. J. HUFFMAN. *Univ. of California, Riverside, Univ. of California, Riverside.*

9:00 Y3 **327.10** ● Modulation of polysialated neural cell adhesion molecules (PSA-NCAM) ameliorates learning and memory deficits associated with prenatal cannabinoid exposure. P. D. PINKY*; J. BLOEMER; Y. DU; S. E. SETTI; R. T. HESLIN; W. D. SMITH; A. DITYATEV; M. N. REED; V. SUPPIRAMANIAM. *Auburn Univ., German Ctr. for Neurodegenerative Dis.*

10:00 Y4 **327.11** Prenatal ethanol exposure and enduring effects on pyramidal neuron function in the somatosensory cortex. L. C. DELATOUR*; P. W. YEH; H. H. YEH. *The Geisel Sch. of Med. At Dartmouth.*

11:00 Y5 **327.12** Alcohol exposure during prenatal and lactational periods enhances reinforcing effects of alcohol, without presenting changes in the mRNA expression of mu and kappa receptors. F. FERNANDEZ-GOMEZ*; S. MONTAGUD-ROMERO; C. NUÑEZ; M. MILANES; O. VALVERDE. *Univ. of Murcia, Murcia Res. Inst. of Hlth. Sci. (IMIB-Arrixaca), Univ. Pompeu Fabra, Neurosci. Res. Programme, IMIM-Hospital del Mar Res. Inst.*

8:00 Y6 **327.13** Prenatal ethanol exposure affects the development of GABAergic interneurons in the striatum. A. R. TOUSLEY*; H. YEH; P. YEH. *Geisel Sch. of Med. at Dartmouth.*

9:00 Y7 **327.14** Long-term consequences of perinatal opioid exposure. H. J. HARDER*; L. HANUS; C. SEARLES; W. KENKEL; A. Z. MURPHY. *Georgia State Univ.*

10:00 Y8 **327.15** Late maturing influence of immune activation on morphine withdrawal and tolerance in the infant rat. S. WANG; B. S. EAST*, Jr; G. A. BARR. *Children's Hosp. of Philadelphia, Nathan Kline Inst.*

11:00 Y9 **327.16** ▲ Effects of early fentanyl exposure on morphine-induced antinociception. G. I. PARK*; J. A. TAYLOR; J. W. RIOS; J. A. BUNCH; C. A. CRAWFORD. *California State Univ. San Bernardino.*

8:00 Y10 **327.17** Effects of caffeine and/or ethanol exposure during development on anxiety-like behavior and learning and memory of adolescent mice. A. N. FREITAS*; A. C. C. CARVALHO-SILVA; P. C. LISBOA; A. C. MANHÃES; Y. ABREU-VILLAÇA; C. C. FILGUEIRAS. *Univ. do Estado do Rio de Janeiro.*

9:00 Y11 **327.18** ▲ Effects of adolescent sucrose consumption on resistance to punished cocaine in adult male and female rats. R. PARMAR; M. M. COBB; R. ARANGO; J. PARENT; M. CRAWFORD; C. RAMIREZ; I. C. SUMAYA; A. M. GANCARZ-KAUSCH*. *California State Univ. Bakersfield, UCLA, California State University, Bakersfield, California State Univ. Bakersfield, California State University, Bakersfield.*

10:00 Y12 **327.19** Adolescent nicotine exposure induces long-term depressive and anxiety-like effects through hyper-phosphorylation of the ERK 1-2 and Akt-GSK-3 pathways and neuronal oscillatory dysregulation in the nucleus accumbens. S. R. LAVIOLETTE*; R. M. HUDSON; M. GREEN; T. D. JUNG; J. RENARD; C. E. JOBSON; W. J. RUSHLOW. *Univ. of Western Ontario, Univ. of Western Ontario, Brock Univ., Western Univ., Western Ontario Univ., Univ. of Western Ontario, UWO.*

11:00 Y13 **327.20** Dose- and sex-dependent effects of acute delta^9-tetrahydrocannabinol in adolescent rats. C. M. RUIZ*; J. R. CEVALLOS; E. CASTILLO; E. HARDER; D. N. JUSTESON; J. S. MONTESINOS; S. V. MAHLER. *UC Irvine.*

8:00 Y14 **327.21** Cannabinoid exposure in adolescence dysregulates genes that orchestrate dopamine development and cocaine-motivated behavior. N. E. ZLEBNIK*; S. CUESTA; J. M. WENZEL; G. A. HERNANDEZ; D. NOUEL; S. KUMMER; L. ZHANG; C. FLORES; J. F. CHEER. *Univ. of Maryland Sch. of Med., McGill Univ., Univ. of Maryland Sch. of Med., McGill Univ., Univ. of Pompeu Fabra, Peking Univ., McGill Univ., Univ. of Maryland Sch. of Med.*

9:00 Y15 **327.22** Adolescent but not adult exposure to nicotine produces long-term effects on anxiety measured in light-enhanced startle. R. C. BARNET*; D. KOSEREISOGLU. *Col. William & Mary.*

10:00 Y16 **327.23** Differences of nicotine-induced locomotor sensitization in adolescent and adult Wistar rats. L. A. ORTEGA*; M. LAMPREA; C. NOVOA; J. SOLANO. *Fundacion Universitaria Konrad Lorenz, Univ. Nacional de Colombia.*

11:00 Y17 **327.24** ▲ MK801-induced locomotor activity in preweanling and adolescent male and female rats: Role of the dopamine and serotonin systems. M. G. APODACA; G. I. PARK; N. R. MONTEJANO; A. TERAN; T. J. BAUM; S. A. MCDOUGALL*. *California State Univ.*

● Indicated a real or perceived conflict of interest, see page 150 for details.
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* Indicates abstract's submitting author

8:00 Y18 **327.25** ▲ Ketamine-, cocaine-, and amphetamine-induced locomotor activity in preweanling and adolescent male and female rats: Role of the serotonin system. J. W. RIOS*; J. A. TAYLOR; M. G. APODACA; J. A. M. ROBINSON; S. A. MCDOUGALL. *California State Univ.*

9:00 Y19 **327.26** Pre-conception vs post-conception exposure to ethanol: Similar effects on the development of hypothalamic hypocretin/orexin neurons and behavior in larval zebrafish. A. D. COLLIER*; S. MIN; S. CAMPBELL; M. ROBERTS; K. CAMIDGE; S. F. LEIBOWITZ. *The Rockefeller Univ.*

10:00 Y20 **327.27** The effect of adolescent intermittent binge ethanol and ethanol challenge on Arc expression in young adult rat brain. W. LIU*; F. T. CREWS. *Univ. of North Carolina at Chapel Hill, Univ. of North Carolina at Chapel Hill.*

11:00 Y21 **327.28** Functional role of a human 3'UTR polymorphism (rs2304297) in the alpha6 (α6) nicotinic acetylcholine receptor subunit gene in adolescent Sprague Dawley rats. A. CARDENAS*; Y. BAI; S. LOTFIPOUR. *Univ. of California, Irvine, Univ. of California, Irvine, UCI.*

POSTER

328. Cocaine Craving

Theme G – Motivation and Emotion

Mon. 8:00 AM – *McCormick Place, Hall A*

8:00 Y22 **328.01** NMDA receptors in rat nucleus accumbens are dynamically regulated during withdrawal from cocaine self-administration. D. T. CHRISTIAN*; M. T. STEFANIK; L. A. BEAN; A. M. WUNSCH; J. R. FUNKE; C. A. BRIGGS; J. LYONS; M. MILOVANOVIC; G. E. STUTZMANN; D. NICHOLSON; K. TSENG; M. E. WOLF. *Des Moines Univ., North Central Col., Rush Univ. Med. Ctr., Oregon Hlth. & Sci. Univ., Oregon Hlth. & Sci. Univ., Rosalind Franklin Univ., Rosalind Franklin Univ., Rosalind Franklin Univ. /Chicago Med. Sch., Rush Univ. Med. Ctr., Univ. of Illinois At Chicago - Col. of Med.*

9:00 Y23 **328.02** Defining the role of retinoic acid mediated homeostatic plasticity in nucleus accumbens core medium spiny neurons during incubation of cocaine craving. A. M. WUNSCH*; D. T. CHRISTIAN; J. R. FUNKE; T. A. GREEN; E. S. CALIPARI; L. CHEN; M. E. WOLF. *Oregon Hlth. & Sci. Univ., Rosalind Franklin Univ. of Med. and Sci., Des Moines Univ., UT Med. Br., Vanderbilt Univ. Sch. of Med., Stanford Univ.*

10:00 Y24 **328.03** Defining sex differences during incubation of methamphetamine craving. J. R. FUNKE*; A. M. WUNSCH; M. E. WOLF. *Oregon Hlth. & Sci. Univ.*

11:00 Y25 **328.04** The role of protein translation in the nucleus accumbens in the expression of incubation of cocaine craving. A. B. KAWA*; M. E. WOLF. *OHSU.*

8:00 Y26 **328.05** Alterations of the endocannabinoid signaling complex after incubation of cocaine craving. C. H. MURRAY*; M. MILOVANOVIC; J. A. LOWETH; A. D. GAULDEN; A. J. CACCAMISE; J. R. FUNKE; S. PATEL; M. E. WOLF. *Rosalind Franklin Univ. of Med. and Sci., Rowan Univ. Sch. of Osteo. Med., Vanderbilt Univ., Marquette Univ., Oregon Hlth. & Sci. Univ., Oregon Hlth. & Sci. Univ.*

9:00 Y27 **328.06** Incubation of cocaine craving after intermittent access self-administration: Sex differences and estrous cycle. C. NICOLAS*; T. I. RUSSELL; A. F. PIERCE; S. MALDERA; A. HOLLEY; Z. YOU; M. M. MCCARTHY; Y. SHAHAM; S. IKEMOTO. *Natl. Inst. On Drug Abuse-Irp, Univ. of Maryland Sch. of Med., Natl. Inst. On Drug Abuse-Irp.*

10:00 Y28 **328.07** Central amygdala PKCδ-expressing neurons are critical to inhibition of incubation of methamphetamine craving after social choice-induced voluntary abstinence. M. VENNIRO*; T. RUSSELL; L. R. WHITAKER; C. RICHIE; R. O. MESSING; Y. SHAHAM. *Natl. Inst. On Drug Abuse, Univ. of Texas.*

11:00 Y29 **328.08** Role of ventral subiculum in incubation of oxycodone craving after electric barrier-induced voluntary abstinence. I. FREDRIKSSON*; S. APPLEBEY; A. MINIER-TORIBIO; C. CIFANI; J. M. BOSSERT; Y. SHAHAM. *IRP-NIDA, NIH, Univ. of Camerino, Sch. of Pharm.*

8:00 Y30 **328.09** Operant social reward decreases incubation of heroin craving in male and female rats. T. I. RUSSELL*; M. ZHANG; Y. SHAHAM; M. VENNIRO. *Natl. Inst. On Drug Abuse.*

9:00 Y31 **328.10** ▲ Incubation and cocaine cue-induced changes in medial prefrontal cortex parvalbumin and perineuronal nets after long access to cocaine in rats. J. ANGUIANO*; J. M. BLACKTOP; J. WINGERT; L. CHURCHILL; B. A. SORG. *Washington State Univ., Washington State Univ. Vancouver, Washington State Univ. Vancouver, Washington State Univ., Washington State Univ.*

10:00 Y32 **328.11** Decreased N^6-methyladenosine (m^6A) levels in the prefrontal cortex are associated with incubation of cocaine craving. D. K. FISCHER*; S. E. SWINFORD-JACKSON; J. STOUTE; F. LIU; R. C. PIERCE. *Univ. of Pennsylvania, Univ. of Pennsylvania, Univ. of Pennsylvania, Univ. of Pennsylvania.*

11:00 Y33 **328.12** Accumbal endocannabinoid signaling mediates cocaine craving following prolonged abstinence. P. H. GOBIRA; S. MITRA; J. A. MARTIN; C. T. WERNER; D. M. DIETZ*. *Univ. of São Paulo, State Univ. of New York at Buffalo, State Univ. of New York at Buffalo, State Univ. of New York at Buffalo, State Univ. of New York.*

8:00 Y34 **328.13** Differential microRNA expression in nucleus accumbens shell after prolonged cocaine abstinence in environmentally-enriched rats. A. VANNAN*; G. L. POWELL; A. M. H. MOKBEL; A. L. ESQUER; M. DELL'ORCO; N. PERRONE-BIZZOZERO; J. L. NEISEWANDER. *Arizona State Univ., Arizona State Univ., Univ. of New Mexico HSC.*

9:00 Y35 **328.14** Altering the gut microbiota affects cocaine-seeking in adult but not adolescent male rats. G. J. SUESS*; J. KASIAH; B. ANTHONY; B. F. WILLIAMS; B. CHASSAING; K. J. FRANTZ. *Georgia State Univ.*

10:00 Y36 **328.15** Cocaine intake dependent plasticity in nucleus accumbens mGluR5 receptor signaling leads to differential regulation of drug seeking. M. GHASEMZADEH*; D. KRAVTSOV; S. GIWANI; R. VARELA; J. BOROVICKA; O. BURGOS; L. KELBLE. *Marquette Univ., Marquette Univ.*

11:00 Y37 **328.16** CRF in the nucleus accumbens core amplifies drug anticipation: Recruitment of $CRF\text{-}R_2$ in cocaine-seeking behavior. M. Z. LEONARD*; H. E. COVINGTON, III; K. A. MICZEK. *Tufts Univ., Tufts Univ.*

8:00 Y38 **328.17** Continuous social stress: Individual effects on CRF and cocaine reinstatement in mice. D. T. ARENA*; M. Z. LEONARD; K. A. MICZEK. *Tufts Univ.*

• Indicated a real or perceived conflict of interest, see page 150 for details.
▲ Indicates a high school or undergraduate student presenter.
* Indicates abstract's submitting author

9:00 Y39 **328.18** Orexin-A administration in the posterior paraventricular nucleus of the thalamus promotes cocaine-seeking behavior via recruitment of the central amygdala. R. MARTIN-FARDON*; A. MATZEU. *The Scripps Res. Inst.*

10:00 Y40 **328.19** Cell type specific role of HDAC3 within the NAc in regulating cocaine-induced plasticity. R. R. CAMPBELL*; E. KRAMAR; J. BEARDWOOD; A. L. LOPEZ; O. CHITNIS; J. BANIHANI; L. PHAM; D. MATHEOS; M. WOOD. *Univ. of California, Irvine, Vanderbilt Univ.*

11:00 Y41 **328.20** Activity-dependent epigenetic alterations underlying cocaine self-administration. A. J. LOPEZ*; J. E. ZACHRY; H. N. HAYNES; A. R. JOHNSON; M. G. KUTLU; L. BRADY; K. THIBEAULT; E. S. CALIPARI. *Vanderbilt Univ., Vanderbilt Univ. Sch. of Med., Vanderbilt Univ., Vanderbilt Univ. Sch. of Med.*

8:00 Y42 **328.21** Single-cell RNA-sequencing of mouse nucleus accumbens reveals a subtype of D1 medium spiny neurons. W. CHEN*; R. CHEN; M. DJEKIDEL; A. BHATTACHERJEE; L. M. TUESTA; Y. ZHANG. *Boston Children's Hospital, Harvard Med. Sch., Boston Children's Hospital, Harvard Med. School, Howard Hughes Med. Inst.*

POSTER

329. Opioids, Dependence, Withdrawal, and Reward

Theme G – Motivation and Emotion

Mon. 8:00 AM – *McCormick Place, Hall A*

8:00 Y43 **329.01** Extinction of morphine withdrawal-induced place aversion is related to a decrease in mTORC1 pathway in the basolateral amygdala. A. FRANCO*; M. V. MILANÉS; C. NÚÑEZ. *Univ. of Murcia, Murcia Res. Inst. of Hlth. (IMIB).*

9:00 Y44 **329.02** Mu opioid receptors on vGluT2-expressing glutamatergic neurons regulate aversion to oxycodone. K. C. JONES*; M. KUBE; B. K. ATWOOD; B. MUÑOZ; B. FRITZ; D. HAGGERTY. *Stark Neurosciences Res. Inst., Indiana Univ. Sch. of Med.*

10:00 Z1 **329.03** Heroin-induced respiratory depression and subsequent brain hypoxia are triggered from the periphery. E. A. KIYATKIN*; D. PEREKOPSKIY; A. AFZAL. *NIDA-IRP, NIH, DHHS.*

11:00 Z2 **329.04** 6-monoacetylmorphine (6-MAM) but not morphine is responsible for the rapid neural effects of intravenous heroin. D. PEREKOPSKIY*; E. A. KIYATKIN. *NIDA-IRP, NIH, DHHS.*

8:00 Z3 **329.05** Opioid withdrawal shifts amygdalar transcriptome and is correlated with gut dysbiosis. S. J. O'SULLIVAN*; E. MALAHIAS; J. PARK; B. A. S. REYES; E. J. VAN BOCKSTAELE; R. VADIGEPALLI; J. S. SCHWABER. *Thomas Jefferson Univ., Drexel Univ. Col. of Med.*

9:00 Z4 **329.06** Fentanyl abstinence causes structural and molecular changes to nucleus accumbens D1 medium spiny neurons. M. E. FOX*; A. B. WULFF; C. A. CALARCO; S. A. AMENT; M. ENGELN; M. LOBO. *Univ. of Maryland Sch. of Med., Univ. of Maryland Baltimore, Univ. of Maryland Sch. of Med.*

10:00 Z5 **329.07** ● ▲ Exploring liraglutide as a potential treatment for oxycodone use and abuse. C. M. PORTO*, III; M. M. CLASEN. *Williams Col., Williams Col.*

11:00 Z6 **329.08** ▲ Role of orbitofrontal cortex in incubation of oxycodone craving in male and female rats. E. S. YANG*; M. HAILE; I. R. DAVIS; S. RAZAVI; S. A. COLDREN; X. LI. *Univ. of Maryland Col. Park.*

8:00 Z7 **329.09** Effects of acute and chronic morphine on lateral paracapsular amygdala circuitry. S. J. WERNER*; N. LEWIS; H. WADSWORTH; S. STEFFENSEN; N. GRAZIANE; Y. SILBERMAN; J. YORGASON. *Brigham Young Univ., Brigham Young Univ., Penn State.*

9:00 Z8 **329.10** Increased excitability of PVT neurons following morphine exposure is light/dark cycle-dependent. D. S. MCDEVITT*; N. M. GRAZIANE. *Pennsylvania State Univ. Col. of Med.*

10:00 Z9 **329.11** ▲ Interruption of continuous opioid exposure exacerbates drug evoked adaptations in brain function and behavior. L. BYSTROM*; E. LEFEVRE; M. T. PISANSKY; T. J. Y. KONO; P. E. ROTHWELL. *Univ. of Minnesota Twin Cities, Univ. of Minnesota, Univ. of Minnesota.*

11:00 Z10 **329.12** Gene by environment interactions influence naloxone precipitated withdrawal in mice. D. J. MOORE*; C. F. DAVIDSON; T. D. PATTON; A. M. TOORIE; D. N. TECENO; F. M. VASSOLER; E. M. BYRNES. *Tufts Univ.*

8:00 Z11 **329.13** Generation of knock-in mu opioid receptor-Cre mice. J. BAILLY*; N. DEL ROSSI*; M. BIRLING; E. DARCQ; B. L. KIEFFER. *McGill University, Douglas Res. Ctr., Inst. de Génétique et de Biologie Moléculaire et Cellulaire.*

9:00 Z12 **329.14** Whole brain connectivity alterations upon protracted morphine abstinence: A mouse fMRI study. L. WELSCH*; T. M. D. NASSEEF; J. PUNEET SINGH; E. DARCQ; B. L. KIEFFER. *McGill Univ., McGill/Douglas Res. Ctr.*

10:00 Z13 **329.15** Craniofacial mucosal application of NOP agonists for the treatment and prevention of addiction. A. HUNTER*; M. KLUKINOV; D. YEOMANS. *Stanford Univ.*

11:00 Z14 **329.16** The role of cannabinoid and opioid combinations on pain and respiratory depression in rodents. B. M. WIESE*; E. LIKTOR-BUSA; A. LEVINE; S. NIKAS; A. MAKRYANNIS; T. M. LARGENT-MILNES; T. W. VANDERAH. *Univ. of Arizona, Univ. of Arizona, Northeastern Univ., Universty of Arizona, Univ. of Arizona.*

8:00 Z15 **329.17** ● Differential effects of various opioids on affect and anxiety-like states. C. A. MADISON; P. J. WELLMAN; S. EITAN*. *Texas A&M Univ.*

9:00 Z16 **329.18** circRIMS2 expression is differentially impacted in acute and chronic oxycodone exposure. V. E. LEHMANN*; A. LACHMANN; H. KRONMAN; A. RAMAKRISHMAN; P. J. KENNY. *Icahn Sch. of Med. at Mount Sinai.*

8:00 DP12/Z17 **329.19** (Dynamic Poster) Optical subcellular pharmacology with fluorescent biosensors of nicotine and opioids. A. K. MUTHUSAMY*; A. V. SHIVANGE; P. M. BORDEN; A. L. NICHOLS; T. M. CHIN; C. H. KIM; K. BERA; A. KAMAJAYA; J. JEON; J. S. MARVIN; E. K. UNGER; B. N. COHEN; M. J. MULCAHY; H. BAO; E. R. CHAPMAN; L. TIAN; D. A. DOUGHERTY; L. L. LOOGER; H. A. LESTER. *Caltech, Janelia Res. Campus, Univ. of California, Davis, Univ. of Wisconsin-Madison, Howard Hughes Med. Inst., Caltech.*

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▲ Indicates a high school or undergraduate student presenter.
* Indicates abstract's submitting author

11:00 Z18 **329.20** Transcriptional regulation of EGR3 in the prefrontal cortex mediates oxycodone-induced pain relief. S. A. THOMAS; J. A. MARTIN*; S. MITRA; J. WILLIAMS; R. CHANDRA; M. LOBO; F. J. SIM; D. M. DIETZ. *State Univ. of New York at Buffalo, Univ. of Maryland Baltimore, Univ. of Maryland Sch. of Med., Univ. at Buffalo - The State Univ. of New York, State Univ. of New York.*

8:00 Z19 **329.21** Carfentanil-induced nucleus accumbens hypoxia is inhibited by naloxone. E. SOLIS*, Jr; M. H. BAUMANN. *NIDA-IRP.*

9:00 Z20 **329.22** The effect of traumatic stress on mu opioid receptor dynamics in brain regions associated with emotional learning and addiction. N. MOHAMMADMIRZAEI*; D. KNOX. *Univ. of Delaware.*

10:00 Z21 **329.23** β-arrestin2 conditional knockout alters morphine-induced excitability changes in D2 spiny projection neurons. A. K. PETKO*; K. A. PORTER-STRANSKY; C. LILES; D. WEINSHENKER; C. A. PALADINI. *Univ. of Texas at San Antonio, Emory Univ., Emory Univ. Sch. Med., UTSA.*

11:00 Z22 **329.24** ▲ Mu opioid receptors in dopamine D1 expressing neurons are required for oxycodone-induced locomotor sensitization in the presence of chronic pain. J. A. ALDERETE; H. NASEF; A. L. SEVERINO; S. A. LEE; W. M. WALWYN; C. J. EVANS; C. M. CAHILL*. *UCLA, Univ. of California Los Angeles, UCLA.*

8:00 Z23 **329.25** Activation of the striatal MAPK-CREB pathway during early withdrawal from escalated oxycodone self-administration. C. A. BLACKWOOD*; M. T. MCCOY; B. LADENHEIM; J. L. CADET. *DHHS/NIH/NIDA/IRP.*

9:00 Z24 **329.26** Oxycodone self-administration under punishment: Differential immediate early gene expression in the dorsal striatum of compulsive oxycodone takers and abstinent rats. M. T. MCCOY*; C. A. BLACKWOOD; B. LADENHEIM; J. L. CADET. *DHHS/NIH/NIDA/IRP.*

10:00 Z25 **329.27** ▲ Opioid overdose and rescue impairs risk-based decision-making and behavioral flexibility. H. J. CARMON*; S. M. THOMPSON; M. S. MCMURRAY. *Miami Univ.*

11:00 Z26 **329.28** Neurotoxic consequences of opioid overdose and rescue. S. M. THOMPSON*; D. N. TAPP; H. CARMON; E. M. BYRNES; M. S. MCMURRAY. *Miami Univ., Tufts Univ. Cummings Sch. Vet Med.*

8:00 Z27 **329.29** ▲ Small molecule inhibitors of PSD95-nNOS protein-protein interactions suppress opioid-induced reward. S. A. SABERI*; C. RANGEL-BARAJAS; T. GUTIERREZ; V. IYER; Y. Y. LAI; P. M. KULKARNI; S. GARAI; G. A. THAKUR; J. D. CRYSTAL; G. V. REBEC; A. G. HOHMANN. *Indiana Univ., Northeastern Univ.*

9:00 Z28 **329.30** Negative allosteric modulation of CB1 cannabinoid receptor signaling suppresses opioid-mediated reward and dopamine efflux. V. IYER*; C. RANGEL-BARAJAS; J. D. CRYSTAL; A. KULKARNI; G. A. THAKUR; G. V. REBEC; A. G. HOHMANN. *Indiana Univ., Indiana Univ., Northeastern Univ., Indiana Univ.*

POSTER

330. New Methods for Studying Cognition

Theme H – Cognition

Mon. 8:00 AM – *McCormick Place, Hall A*

8:00 Z29 **330.01** Micro-LED optoelectrodes for high-spatiotemporal-resolution *in-vivo* opto-electrophysiology (optoEphys) in freely moving animals. K. KIM*; J. SEYMOUR; Y. WU; G. BUZSAKI; E. YOON. *Univ. of Michigan, New York Univ.*

9:00 Z30 **330.02** Transcranial radio frequency stimulation (TRFS): A novel noninvasive contactless neuromodulation technique based on radio frequency waves. O. YAGHMAZADEH*; M. VÖRÖSLAKOS; L. ALON; B. ZHANG; D. K. SODICKSON; G. BUZSAKI. *New York University, Sch. of Med.*

10:00 Z31 **330.03** ● Hardware and software for driving high-density optogenetic μLED probes in freely moving animals. N. SLAGER*; A. MENDRELA; D. JAMES; K. KIM; H. YE; J. P. SEYMOUR; E. YOON. *Univ. of Michigan, Univ. of Michigan.*

11:00 Z32 **330.04** Rapid customization and distribution of carbon fiber array prototypes via the multimodal integrated neural technologies (MINT) hub. J. RICHIE*; P. R. PATEL; E. J. WELLE; E. DELLA VALLE; J. D. WEILAND; E. YOON; J. P. SEYMOUR; C. A. CHESTEK. *Univ. of Michigan, Univ. of Michigan, Univ. of Michigan.*

8:00 Z33 **330.05** ▲ Intraoperative large scale extracellular recordings for studying the cellular and microcircuit basis of human cognition. V. M. EISENKOLB*; J. GEMPT; B. MEYER; S. N. JACOB. *Tech. Univ. of Munich.*

9:00 Z34 **330.06** A novel modular behavioral apparatus to standardize experimental context in recognition memory assessment. M. TROPEA*; W. GULISANO; D. PUZZO. *Univ. of Catania, Oasi Res. Institute-IRCCS.*

10:00 Z35 **330.07** Using network metrics to characterize network functionality in hippocampal CA1. D. T. GUENTHER*; N. DELROCCO; C. HERDEGEN; N. M. DICOLA; D. R. MILLER; H. KHOSHBOUEI; S. N. BURKE; K. DIBA; R. VACCA; A. P. MAURER. *Univ. of Florida, Univ. of Florida, Univ. of Florida, Univ. of Michigan, Univ. of Florida, Univ. of Florida.*

11:00 Z36 **330.08** ▲ Translational rat model of cognitive aging using a touchscreen operant platform to test visual discrimination and association. S. ZEQUEIRA*; S. A. JOHNSON; A. HAMPTON; A. P. MAURER; J. L. BIZON; S. N. BURKE. *Univ. of Florida, Univ. of Florida.*

8:00 Z37 **330.09** A methodology pipeline for CLARITY and Arc imaging following vagus nerve stimulation. M. MELTON*; S. BURKE; M. ASH; D. LAMB; L. BRATTAIN; K. OTTO; B. SETLOW; J. BIZON; A. MAURER; K. OLCZAK; E. DIRR. *Univ. of Florida, MIT.*

9:00 Z38 **330.10** Automated multichannel centroid detection and coincident analysis of cleared brain tissue following vagus nerve stimulation. D. G. LAMB; M. MELTON; J. L. BIZON; M. ASH; S. N. BURKE*; K. J. OTTO; B. SETLOW; A. P. MAURER; E. DIRR; L. BRATTAIN. *Univ. of Florida, Univ. of Florida, Univ. of Florida, Univ. of Florida, Univ. of Florida, Univ. of Florida, MIT.*

Mon. AM

• Indicated a real or perceived conflict of interest, see page 150 for details.
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* Indicates abstract's submitting author

10:00 Z39 **330.11** Thinking inside the box - Using automated touchscreen tasks to evaluate cognition in FTD/ALS mouse models. K. COLEMAN; R. FRANCO; M. COWAN; J. JOVIANO-SANTOS; J. RYLETT; V. PRADO; L. SAKSIDA; T. BUSSEY; M. PRADO; F. H. BERALDO*. *Univ. of Western Ontario.*

11:00 Z40 **330.12** A task that allows analyzing separately the different stages of decision making: An electroencephalographic study. P. CORTES ESPARZA*; J. GARCÍA-HERNÁNDEZ; M. RAMÍREZ-RENTERÍA; M. HERNÁNDEZ-GONZÁLEZ; M. GUEVARA. *Inst. De Neurociencias.*

8:00 Z41 **330.13** Nelpy: A powerful toolset for the analysis of electrophysiology data. J. CHU*; E. ACKERMANN; C. KEMERE. *Rice Univ.*

9:00 Z42 **330.14** ▲ Computational methods for advancing sharp-wave ripple detection and disruption. A. K. FELDMAN*; S. DUTTA; C. T. KEMERE. *Rice Univ.*

10:00 AA1 **330.15** Neuroimaging decoder of cognitive load under stress. A. GREENTAL*; S. REZNIK; N. NUTKEVICH; I. SHAPIRO; T. HENDLER. *Tel Aviv Univ., Sagol Brain Institute, Tel Aviv Sourasky Med. Ctr., Tel-Aviv Univ.*

11:00 AA2 **330.16** Evaluating translational neurophysiological measures to improve efficacy of preclinical therapeutic target discovery. D. J. G. GREGG*; J. F. CAVANAGH; G. LIGHT; J. W. YOUNG; J. L. BRIGMAN. *Univ. of New Mexico, Univ. of New Mexico, UCSD.*

POSTER

331. Attention

Theme H – Cognition

Mon. 8:00 AM – *McCormick Place, Hall A*

8:00 AA3 **331.01** Neural correlates of uncertainty parameters in temporal prediction. M. GRABENHORST*; G. MICHALAREAS; L. T. MALONEY; D. POEPPEL. *Max-Planck-Institute For Empirical Aesthetics, Max Planck Inst. for Empirical Aesthetics, New York Univ., Max-Planck-Institute For Empirical Aesthetics.*

9:00 AA4 **331.02** Fiber photometry of anatomically-defined claustrum populations in awake behaving mice. G. ATLAN*; N. PERETZ-RIVLIN; E. SHEINBACH; A. CITRI. *Hebrew Univ. of Jerusalem, Hebrew Univ. of Jerusalem, Canadian Inst. for Advanced Res.*

10:00 AA5 **331.03** The global influence of visual signals in guidance of saccadic eye movements. K. HUBBARD*; B. NOUDOOST. *Univ. of Utah, Univ. of Utah.*

11:00 AA6 **331.04** Improve the learning of olfactory working memory tasks by suppressing the delay activity of lateral orbitofrontal cortex. Q. CHENG*; H. FAN; Z. CHEN; R. HOU; C. T. LI. *Inst. of Neuroscience, State Key Lab. of Neuroscience, Chinese Acad. of Sciences, CAS Ctr. for Excellence in Brain Sci. and Intelligence Technology, Shanghai Ctr. for Brain Sci. and Brain-Inspired Technol., Sch. of Future Technology, Univ. of Chinese Acad. of Sci., Inst. of Neurosci.*

8:00 AA7 **331.05** Virtual reality system for the immersive display of visual and audiovisual objects. S. SABHARWAL-SIDDIQI*; A. DUBEY; J. CHOI; J. HAGGERTY; S. QIAO; E. VOINAS; B. PESARAN. *New York Univ.*

9:00 AA8 **331.06** Cell-type-specific suppression of spontaneous activity by attention in visual cortex. E. M. SACHSE*; A. C. SNYDER. *Univ. of Rochester, Univ. of Rochester, Univ. of Rochester.*

10:00 AA9 **331.07** Locus coeruleus stimulation averts stress-induced attentional deficits and anxiety. A. BARI*; S. XU; J. MARTIN; S. TONEGAWA. *MIT, MIT, MIT.*

11:00 AA10 **331.08** Aging associated attention decline is prevented by D-serine and correlates with a reduction on functional brain connectivity. L. NAVA-GOMEZ; A. CALERO-VARGAS; J. ORTIZ-RETANA; S. ALCAUTER; M. LOPEZ-HIDALGO*. *Facultad de Medicina. Univ. Autonoma de Queretaro, Escuela Nacional de Estudios Superiores-Unidad Juriquilla. Univ. Nacional Autonoma de Mexico, Dept. de Neurobiologia Conductual y Cognitiva. Inst. de Neurobiologia. Univ. Nacional Autonoma de Mexico.*

8:00 AA11 **331.09** A role for adult-born hippocampal neurons in arousal. J. MERCURIO*; H. A. CAMERON. *Natl. Inst. of Hlth., Brown Univ., NIH.*

9:00 AA12 **331.10** Sign-trackers deploy perceptual, but not cholinergic-attentional, mechanisms to respond to salient cues. K. B. PHILLIPS*; C. AVILA; M. SARTER. *Univ. of Michigan.*

10:00 AA13 **331.11** Functional dissociation of EEG theta rhythms between prefrontal and visual cortices and their synchronization during sustained attention. H. HAN*; K. LEE; J. CHOI. *Korea Inst. of Sci. and Technol., Korea Advanced Inst. of Sci. and Technol., Seoul Natl. Univ., Korea Univ. of Sci. and Technol.*

11:00 AA14 **331.12** ▲ Cortico-cortical and baso-cortical gamma oscillations represent functionally distinct attentional networks. K. LEE*; H. HAN; J. CHOI. *Seoul Natl. Univ., Korea Inst. of Sci. and Technol., Korea Advanced Inst. of Sci. and Technol., Korea Univ. of Sci. and Technol.*

8:00 AA15 **331.13** Timing is everything in the attention network: Specific oscillatory patterns in spike timing predict behavioral performance. I. C. FIEBELKORN*; S. KASTNER. *Princeton Univ.*

9:00 AA16 **331.14** Flexible feature-based attention and learning in monkeys. S. D. KOENIG*; T. WOMELSDORF. *Vanderbilt Univ., Vanderbilt Univ.*

10:00 AA17 **331.15** Cortex-projecting basal forebrain PV neurons in a sustained attention task. S. LI*; B. HANGYA; A. KEPECS. *Cold Spring Harbor Lab., Inst. of Exptl. Medicine, Hungarian Acad. of Sci.*

11:00 AA18 **331.16** Corticothalamic networks underlying exogenous and endogenous attention. R. CHEN*; A. B. MARTIN; S. KASTNER. *Princeton Univ., Univ. of Arizona.*

8:00 AA19 **331.17** Optogenetic excitation of basal forebrain parvalbumin neurons quickens reaction times in the rodent psychomotor vigilance task. F. L. SCHIFFINO; J. M. MCNALLY; A. N. HASSLER; R. E. BROWN; R. E. STRECKER*. *VABHS & Harvard Med. Sch., Stonehill Col.*

9:00 AA20 **331.18** Neuromodulatory- and prefrontal- sensory cortical interactions underlying motivated shifts in attentional effort. Z. H. MRIDHA; J. DE GEE; Y. SHI; H. RAMSAYWAK; A. BANTA; W. ZHANG; M. J. MCGINLEY*. *Baylor Col. of Med.*

10:00 AA21 **331.19** Non-invasive trigeminal nerve stimulation effect on locus coeruleus response and autonomic nervous system changes. J. C. TANNER*; S. I. HELMS TILLERY. *Arizona State Univ., Arizona State Univ.*

• Indicated a real or perceived conflict of interest, see page 150 for details.
▲ Indicates a high school or undergraduate student presenter.
* Indicates abstract's submitting author

11:00 AA22 **331.20** ▲ Development of a method for assessing divided attention in a rodent model of ADHD. A. TWISSELMANN*; T. M. AUBELE-FUTCH. *St. Mary's Col., St. Mary's Col.*

8:00 AA23 **331.21** Evaluating "productivity" vs "quality" of performance in rodent assays of goal-directed behavior and cognitive function. R. L. NAVARRA*; C. P. KNAPP; D. P. FOX; S. B. FLORESCO; B. D. WATERHOUSE. *Rowan Univ. Sch. of Med., Univ. British Columbia.*

9:00 AA24 **331.22** Involvement of a locus coeruleus-to-prefrontal (LC-mPFC) circuit in a touchscreen variant of the continuous performance test (CPT) in mice. H. L. HALLOCK*; A. C. DEBROSSE; M. NOBACK; H. M. QUILLIAN, IV; J. C. BARROW; G. V. CARR; K. MARTINOWICH. *The Lieber Inst. for Brain Develop., Johns Hopkins Sch. of Med., Lieber Inst., Lieber Inst. For Brain Develop., Lieber Inst. For Brain Develop.*

10:00 AA25 **331.23** Stable cognitive computations in the prefrontal cortex of unrestrained monkeys . C. TESTARD*; S. TREMBLAY; M. PETRIDES. *Univ. of Pennsylvania, Univ. of Pennsylvania, Montreal Neurolog Inst. Mc Gill Univ.*

POSTER

332. Decision Making: Medial Prefrontal Cortex

Theme H – Cognition

Mon. 8:00 AM – *McCormick Place, Hall A*

8:00 AA26 **332.01** Controlling the balance between goal directed and habitual behaviour: Parsing the contribution of primate medial and orbital prefrontal cortex sub-regions and the caudate nucleus. L. Y. DUAN*; N. K. HORST; S. A. W. JACKSON; N. HORIGUCHI; R. N. CARDINAL; T. W. ROBBINS; A. C. ROBERTS. *Univ. of Cambridge, Behavioural and Clin. Neurosci. Institute, Univ. of Cambridge, Univ. of Cambridge, Univ. of Cambridge.*

9:00 AA27 **332.02** Laminar profile of context-dependent computation in dorsomedial frontal cortex. H. SOHN*; M. JAZAYERI. *MIT, MIT.*

10:00 AA28 **332.03** Effects of ketamine on prefrontal cortex activity during decision making in macaques. M. OEMISCH*; A. F. ARNSTEN; D. LEE; H. SEO. *Yale Sch. of Med., Yale Sch. of Med.*

11:00 AA29 **332.04** Exploration of the eligibility trace as a link between choice and temporally-delayed feedback. S. K. MURRAY*; D. LEE; H. SEO. *Yale Univ., Yale Sch. of Med., Yale Sch. of Med.*

8:00 AA30 **332.05** Functional signatures and intrinsic timescales of single unit types in the midcingulate and lateral prefrontal cortex. E. PROCYK*; F. M. STOLL; V. FONTANIER. *Inserm U1208, Icahn Sch. of Med. At Mount Sinai.*

9:00 AA31 **332.06** The causal role of midcingulate cortex in the regulation of decisions to check. V. FONTANIER*; F. M. STOLL; E. PROCYK. *INSERM U1208 - Cell and Brain Res. Inst., Icahn Sch. of Med. At Mount Sinai.*

10:00 AA32 **332.07** Prospective goal encoding in monkey OFC-RSC circuit in a 3D virtual reality foraging task. M. WANG*; B. Y. HAYDEN. *Univ. of Minnesota, Univ. of Minnesota.*

11:00 AA33 **332.08** The role of the OFC-PCC circuit in a multi-attribute gambling task. H. LEE*; M. WANG; B. Y. HAYDEN. *Univ. of Minnesota, Univ. of Minnesota Twin Cities, Univ. of Minnesota Twin Cities.*

8:00 AA34 **332.09** Dorsal anterior cingulate cortex encodes cognitive control signals in a value-based conflict task. P. MEHTA*; B. Y. HAYDEN. *Univ. of Minnesota.*

9:00 AA35 **332.10** ▲ Suboptimal decision making in macaques during low reward trials. K. EDMONSTON*; P. MEHTA; B. R. EISENREICH; B. Y. HAYDEN. *Univ. of Minnesota Twin Cities, Univ. of Minnesota, Univ. of Minnesota, Univ. of Minnesota Twin Cities.*

10:00 AA36 **332.11** Encoding of spatial information in orbitofrontal cortex neurons. H. AZAB*; S. M. YOO; V. B. MCGINTY; B. Y. HAYDEN. *Univ. of Minnesota, Rutgers Univ. - Newark.*

11:00 AA37 **332.12** Single trial anterior cingulate population dynamics predict ensuing decision-related premotor cortex activity and behavior. T. CASH-PADGETT*; B. Y. HAYDEN. *Univ. of Minnesota, Univ. of Minnesota Twin Cities.*

8:00 AA38 **332.13** ▲ Investigation of economic decisionmaking in macaques performing delaybased foraging task. A. SURI*; B. R. EISENREICH; T. CASH-PADGETT; B. Y. HAYDEN. *Univ. of Minnesota Twin Cities, Univ. of Minnesota.*

9:00 AA39 **332.14** Neurons in the pigeon nidopallium caudolaterale, but not the corticoidea dorsolateralis display value and effort discounting related activity. M. DYKES*; B. S. PORTER; M. COLOMBO. *Univ. of Otago.*

POSTER

333. Hippocampus: Spatial Maps, Reward, and Replay

Theme H – Cognition

Mon. 8:00 AM – *McCormick Place, Hall A*

8:00 AA40 **333.01** Intracellular determinants of CA1 pyramidal cells activation or silencing during locomotion. F. MICHON; G. MARTI; C. FILIPPI; R. BOURBOULOU; J. KOENIG; J. EPSZTEIN*. *INSERM U1249/Aix-Marseille University/INMED.*

9:00 AA41 **333.02** The spatial localization of reward-related changes in hippocampal sharp-wave ripple rate requires normal dopamine signaling. M. R. KLEINMAN*; D. J. FOSTER. *Univ. of California, Berkeley.*

10:00 AA42 **333.03** Hippocampal replay rapidly and repeatedly adapts to reconfigurations of barrier wall structure in a changing complex maze. J. WIDLOSKI*; D. J. FOSTER. *Univ. of California Berkeley, Univ. of California, Berkeley.*

11:00 AA43 **333.04** Fast triggering of brain stimulation contingent on the trajectory content of online-detected hippocampal replay. W. D. CROUGHAN; D. J. FOSTER*. *Univ. of California, Berkeley.*

8:00 AA44 **333.05** Prefrontal neurons are tuned to the spatial trajectory information content of hippocampal neurons during non-local hippocampal representation of future and past places, but not during local hippocampal representation of current place. A. BERNERS-LEE*; X. WU; D. J. FOSTER. *Johns Hopkins Univ. Sch. of Med., Univ. of California, Berkeley, NYU Langone Med. Ctr.*

Mon. AM

• Indicated a real or perceived conflict of interest, see page 150 for details.
▲ Indicates a high school or undergraduate student presenter.
* Indicates abstract's submitting author

9:00 BB1 **333.06** Hippocampus neural ensemble representations of spatial mapping and learning in freely behaving mice. L. CHEN*; X. LIN; S. JIN; N. QING; D. A. NITZ; X. XU. *Univ. of California Irvine, Univ. of California, Irvine, Univ. of California San Diego, Univ. California, Irvine.*

10:00 BB2 **333.07** Dendritic plateau potentials shape hippocampal place cell representations. C. GRIENBERGER*; J. C. MAGEE. *Baylor Col. of Med.*

11:00 BB3 **333.08** Continuous reward-place coding properties of dorsal distal CA1 hippocampus cells. Z. XIAO*; S. NAGL; K. LIN; J. FELLOUS. *The Univ. of Arizona, Univ. of Arizona.*

8:00 BB4 **333.09** Value-dependent changes occur dynamically in spatial firing patterns of place cells in the ventral hippocampus, but not in the dorsal hippocampus. S. JIN*; J. SHIN; I. LEE. *Seoul Natl. Univ.*

9:00 BB5 **333.10** Extending evidence for REM-associated replay in hippocampal CA1 place cells. T. HOWE; M. A. WILSON; D. JI; M. W. JONES*. *Univ. of Bristol, MIT, Baylor Col. of Med.*

10:00 BB6 **333.11** The dynamics and mechanisms of place field formation in the hippocampal CA3. C. DONG*; M. SHEFFIELD. *Univ. of Chicago.*

11:00 BB7 **333.12** Characterising stability and fluctuation of hippocampal place cell activity using calcium imaging. C. P. KOH*; A. TASHIRO. *Nanyang Technological Univ. (NTU).*

8:00 DP13/BB8 **333.13** ● (Dynamic Poster) Place cells in head-fixed mice during navigation in a floating real-world environment. M. GO*; J. ROGERS; C. DAVEY; S. V. PRADO; G. GAVA; L. KHIROUG; S. R. SCHULTZ. *Imperial Col., The Univ. of Melbourne, Univ. of Helsinki, Neurotar Ltd.*

9:00 BB9 **333.14** Spatial firing patterns of hippocampal CA1 neurons are not sensitive to changes in the social context. W. WU*; E. YIU; A. G. OPHIR; D. M. SMITH. *Cornell Univ.*

10:00 BB10 **333.15** Role of hippocampal CA1 place cells in fear memory encoding and recall. S. KRISHNAN*; C. CHERIAN; M. SHEFFIELD. *Univ. of Chicago.*

POSTER

334. Genetic and Molecular Mechanisms of Memory Formation

Theme H – Cognition

Mon. 8:00 AM – *McCormick Place, Hall A*

8:00 BB11 **334.01** Transcriptomic analysis to identify brain region specific enhancers. R. A. PHILLIPS*, III; N. CARULLO; K. SAVELL; J. J. DAY. *Univ. of Alabama At Birmingham.*

9:00 BB12 **334.02** Interactions between Creb binding protein (CBP) and enhancer RNAs regulate enhancer activity and gene expression. N. CARULLO*; S. ROMAN; R. A. PHILLIPS, III; J. S. REVANNA; J. HINDS; J. J. DAY. *Univ. of Alabama at Birmingham, Univ. of Alabama at Birmimgham, Univ. of Alabama At Birmingham, Univ. of Alabama At Birmingham, Univ. of Alabama At Birmingham.*

10:00 BB13 **334.03** Combined electrophysiological, behavioural and bioinformatic assessment of the role of MSK1 in the molecular mechanisms of experience-dependent synaptic plasticity. D. D. COOPER*; P. RICHARDSON; E. CONDON; S. PINDER; B. G. FRENGUELLI. *Univ. of Warwick.*

11:00 BB14 **334.04** The role of MSK1 in the experience-dependent regulation of AMPA receptors and plasticity-related proteins. P. RICHARDSON*; D. D. COOPER; B. G. FRENGUELLI. *Univ. of Warwick.*

8:00 BB15 **334.05** Large-scale, *in vivo* functional characterization of molecularly-defined gabaergic interneurons in CA1 by 3D random-access imaging during spatial navigation. T. GEILLER*; B. VANCURA; S. TERADA; B. RÓZSA; A. LOSONCZY. *Columbia Univ., Hungary Acad. of Sci.*

9:00 BB16 **334.06** Correlated physiology and transcription amid learning in the hippocampus. S. A. HERRLINGER*; J. GOGOS; A. LOSONCZY. *Columbia Univ.*

10:00 BB17 **334.07** Heterogeneous activity of parvalbumin synaptic boutons surrounding CA1 pyramidal cell bodies during trace fear learning and memory. S. TERADA*; M. AHMED; E. BALOUGH; J. ZHANG; A. SOLIS CANALES; A. LOSONCZY. *Columbia Univ.*

11:00 BB18 **334.08** Role of ER-mitochondria contacts in Ca^{2+}-dependent processes in dendrites. J. O'HARE*; A. VILLEGAS; S. ROLOTTI; A. LOSONCZY; F. POLLEUX. *Columbia Univ., Columbia Univ., Columbia Univ.*

8:00 BB19 **334.09** A role for the locus coeruleus in hippocampal CA1 place cell reorganization during spatial reward learning. A. KAUFMAN*; T. GEILLER; A. LOSONCZY. *Columbia Univ., Columbia Univ.*

9:00 BB20 **334.10** Network mechanisms of long-term spatial memory consolidation. A. D. GROSMARK*; F. T. SPARKS; M. J. DAVIS; A. LOSONCZY. *Columbia Univ., Columbia Univ., The Univ. of Texas at Austin, Columbia Univ.*

10:00 BB21 **334.11** The relationship of CA1 place cell dendritic activity during SWRs to online spatial tuning. S. V. ROLOTTI*; H. BLOCKUS; F. T. SPARKS; A. LOSONCZY. *Columbia Univ.*

11:00 BB22 **334.12** Characterizing direct cortical influences on hippocampal region CA1 in behaving mice. J. BOWLER*; A. LOSONCZY. *Columbia Univ.*

8:00 BB23 **334.13** Eph-Ephrin signaling is essential for formation of the cell clusters in layer II of medial entorhinal cortex. N. YAMAMOTO*; H. OSANAI; W. D. MARKS; S. K. OGAWA; M. HENKEMEYER; T. KITAMURA. *Univ. of Texas Southwestern Med. Ctr., Univ. of Texas Southwestern Med. Ctr.*

POSTER

335. Learning and Memory: Cortical-Hippocampal Interactions II

Theme H – Cognition

Mon. 8:00 AM – *McCormick Place, Hall A*

8:00 BB24 **335.01** Disrupting medial prefrontal cortex with DREADDs alters hippocampal place cell firing in sharp wave ripples in rats. B. SCHMIDT*; A. D. REDISH. *Univ. of Minnesota.*

• Indicated a real or perceived conflict of interest, see page 150 for details.
▲ Indicates a high school or undergraduate student presenter.
* Indicates abstract's submitting author

9:00 BB25 **335.02** Representation of choice and value in the ventral striatum during the restaurant row task. G. W. DIEHL*; B. SCHMIDT; Y. A. BRETON; A. D. REDISH. *Univ. of Minnesota.*

10:00 BB26 **335.03** Goal encoding in prelimbic cortex and CA1 on a contingency-switching task for rats. B. HASZ*; A. D. REDISH. *Univ. of Minnesota, Univ. of Minnesota.*

11:00 BB27 **335.04** Human cocaine users, like cocaine-treated mice, display unique disruptions on a neuroeconomic task. B. M. SWEIS*; J. CAMCHONG; S. V. ABRAM; S. SPECKER; A. W. MACDONALD, III; M. J. THOMAS; A. D. REDISH; K. O. LIM. *Univ. of Minnesota, Univ. of Minnesota, San Francisco VA Med. Ctr., Univ. of Minnesota, Univ. of Minnesota.*

8:00 BB28 **335.05** ● Neuroeconomic decision-making in J20 mice. R. M. ANDERSON*; B. M. SWEIS; D. HART; M. SHERMAN; S. E. LESNE; M. J. THOMAS; A. D. REDISH. *Univ. of Minnesota, Univ. of Minnesota.*

9:00 BB29 **335.06** A spoonful of sugar helps theta-gamma coupling go down. L. A. CREW*; A. M. MCNEELA; R. A. WIRT; A. A. ORTIZ; H. PEREDO; S. HERNANDEZ; J. W. KINNEY; J. M. HYMAN. *Univ. of Nevada Las Vegas, Univ. of Nevada Las Vegas.*

10:00 BB30 **335.07** ▲ Isolating orthogonal learning signals from ACC ensembles. R. M. FRANCIS*; R. A. WIRT; J. M. HYMAN. *Univ. of Nevada Las Vegas, Univ. of Nevada Las Vegas.*

11:00 BB31 **335.08** Interactions in the local field potentials of the perirhinal and postrhinal cortices during memory and attention tasks. S. G. TRETTEL*; R. D. BURWELL. *Brown Univ.*

8:00 BB32 **335.09** Local field potential and single cell encoding of the retrosplenial cortex during performance of a visuospatial attention task. E. HWANG*; F. YANG; R. D. BURWELL. *Brown Univ., Univ. of Michigan, Brown Univ.*

9:00 BB33 **335.10** Hippocampal projections target excitatory and distinct inhibitory neurons in anterior cingulate cortex in primates. J. WANG*; M. D. FEINBERG; I. N. ONOCHIE; H. BARBAS. *Boston Univ.*

10:00 BB34 **335.11** Context and motivation: A computational model of interactions between hippocampus and medial prefrontal cortex, and their roles in depression. Y. J. JOHN*; D. H. BULLOCK; H. BARBAS. *Boston Univ., Boston Univ.*

11:00 BB35 **335.12** Behaviour matters learning influences hippocampal ripple occurrence and cross brain responses during sleep. A. ALEMAN; F. P. BATTAGLIA; L. GENZEL*. *Donders Inst., Radboud Univ.*

8:00 BB36 **335.13** Allocentric vs egocentric memory in rats and humans: Effects of sleep. A. SAMANTA*; J. JACOBSE; J. ROSSATO; R. G. MORRIS; L. GENZEL. *Radboud Univ., Univ. of Edinburgh, The Univ. of Edinburgh, Donders Inst.*

9:00 BB37 **335.14** Increasing plasticity in the cortex with $RGS14_{414}$ leads to semantic interference effects. I. NAVARRO-LOBATO*; F. P. BATTAGLIA; L. GENZEL. *Radboud Unviversity, Donders Inst. for Brain, Cognition and Behaviour / Radboud Unviversity, Radboud Univ., Donders Inst.*

10:00 BB38 **335.15** A hippocampus prefrontal cortex network for reward prediction. J. L. KLEE*; F. P. BATTAGLIA. *Radboud Univ.*

11:00 BB39 **335.16** Neural substrates of memory impairment and rescue in a mouse model of schizophrenia. C. DELGADO-SALLENT*; T. GENER; A. B. FATH; P. NEBOT; M. BRY; M. V. PUIG. *IMIM -Hospital Del Mar Med. Res. Inst., Univ. of Bordeaux.*

8:00 BB40 **335.17** Serotonin 5-HT1a, 5-HT2a and dopamine D2 receptors strongly influence prefronto-hippocampal neural networks in alert mice: Contribution to the actions of risperidone. T. A. GENER*; A. TAUSTE CAMPO; M. ALEMANY; P. NEBOT; C. DELGADO-SALLENT; J. CHANOVAS; M. V. PUIG. *IMIM -Hospital Del Mar Med. Res. Inst., Barcelonaβeta Brain Res. Ctr., SUNY Downstate Med. Ctr.*

9:00 BB41 **335.18** Neurophysiological effects of the selective 5-HT7 antagonist, SB-269970, in a mouse model of schizophrenia. A. B. FATH*; T. GENER; C. DELGADO-SALLENT; P. NEBOT; M. BRY; M. PUIG. *IMIM -Hospital Del Mar Med. Res. Inst., Univ. of Bordeaux.*

10:00 BB42 **335.19** Neural substrates of memory impairment and rescue in a mouse model of Down syndrome. M. ALEMANY-GONZÁLEZ; T. GENER; P. NEBOT; M. VILADEMUNT; M. DIERSSEN; M. V. PUIG*. *IMIM -Hospital del Mar Med. Res. Inst., CRG - Ctr. For Genomic Regulation.*

11:00 BB43 **335.20** Hippocampal theta sequences and associated prefrontal activity during memory guided behavior. M. C. ZIELINSKI*; J. D. SHIN; S. P. JADHAV. *Brandeis Univ., Brandeis Univ.*

8:00 BB44 **335.21** CA1 neurons encode non-spatial cues as a conjunction of location and cue identity. W. HOCKEIMER*; J. J. KNIERIM. *Johns Hopkins Univ., Johns Hopkins Univ.*

9:00 BB45 **335.22** Age-related hyperactivity in the hippocampal CA3 region. H. LEE*; A. TILLEKERATNE; K. NNAH; M. GALLAGHER; J. J. KNIERIM. *Johns Hopkins Univ., Johns Hopkins Univ., Johns Hopkins Univ.*

10:00 BB46 **335.23** Head scanning behavior and CA3 place field potentiation in aging rats. G. RAO*; H. LEE; A. TILLEKERATNE; K. NNAH; C. WANG; M. GALLAGHER; J. J. KNIERIM. *Johns Hopkins Univ., Johns Hopkins Univ.*

11:00 BB47 **335.24** An open-source 3D pose tracking system for neuroscience research. B. P. VAGVOLGYI; R. P. JAYAKUMAR; M. S. MADHAV; M. K. FERREYROS; F. SAVELLI; J. J. KNIERIM; N. J. COWAN*. *Johns Hopkins Univ., Johns Hopkins Univ., Johns Hopkins Univ., Johns Hopkins Univ., Johns Hopkins Univ.*

8:00 BB48 **335.25** Odor-place associative memory in the hippocampal-prefrontal network. C. A. SYMANSKI*; E. KULLBERG; S. P. JADHAV. *Brandeis Univ.*

9:00 BB49 **335.26** Awake hippocampal-prefrontal replay mediates spatial learning and decision making. W. TANG*; J. D. SHIN; S. P. JADHAV. *Brandeis Univ., Brandeis Univ., Brandeis Univ.*

10:00 BB50 **335.27** Ontogeny of coordinated representations in the hippocampal-prefrontal network during spatial learning. J. D. SHIN*; W. TANG; S. P. JADHAV. *Brandeis Univ., Brandeis Univ., Volen Natl. Ctr. for Complex Systems.*

11:00 BB51 **335.28** Development of a computational theory of gain recalibration in the brain's path integration system. K. R. HEDRICK*; B. GEIGER. *Southern Methodist Univ.*

8:00 BB52 **335.29** Quantifying the influence of grid-cell input scale relative to environment size in a Hebbian model of hippocampal place field formation. F. SAVELLI*; J. J. KNIERIM. *Johns Hopkins Univ., Johns Hopkins Univ.*

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* Indicates abstract's submitting author

9:00 BB53 **335.30** Object-related firing of cells in the dentate gyrus. D. GOODSMITH*; S. KIM; K. M. CHRISTIAN; H. SONG; J. J. KNIERIM. *Johns Hopkins Univ., Univ. of Pennsylvania, Johns Hopkins Univ.*

POSTER

336. Learning and Memory: Physiology II

Theme H – Cognition

Mon. 8:00 AM – *McCormick Place, Hall A*

8:00 BB54 **336.01** Effect of medial septal selective and non selective lesions on exploratory behavior and recognition memory. L. KRUASHVILI*; G. BESELIA; N. CHKHIKVISHVILI. *I.Beritashvili Center of Exptl. Biomedicine.*

9:00 BB55 **336.02** Sleep deprivation impairs learning and memory through downregulation of *O-GlcNAcylation in the brain of adult zebrafish.* S. KIM*; Y. LEE; J. PARK; J. LEE; I. HAN. *Dept. of Physiol. and Biophysics, Inha Univ.*

10:00 BB56 **336.03** Mental navigation of mnemonic space in primates. S. NEUPANE*; M. JAZAYERI. *McGovern Inst. for Brain Research, Massachusetts Inst. of Technol.*

11:00 BB57 **336.04** A short term relief learning paradigm to discriminate safety in *Drosophila.* J. HE*; K. WANG; Y. ZHONG. *Tsinghua Univ., China Agr. Univ.*

8:00 BB58 **336.05** Exploring value-related signals in the rodent and primate striatum. E. SHIN*; Y. JANG; S. KIM; H. KIM; X. CAI; D. LEE; M. JUNG. *Korea Advanced Inst. of Sci. and Technol., Inst. for Basic Sci., Inst. for Basic Sci., Karolinska Institutet, NYU Shanghai, Yale Univ. Sch. of Med.*

9:00 BB59 **336.06** Calorie restriction induces memory enhancement. C. CHIEN*; C. HUANG; P. WANG; S. CHEN. *Natl. Taiwan Univ.*

10:00 BB60 **336.07** Diversity of molecularly defined GABAergic interneurons in the mouse perirhinal cortex. M. J. NIGRO*; R. NAIR RAVEENDRAN; C. KENTROS; M. P. WITTER. *Kavli Inst. for Systems Neuroscience, Ctr. for Neural Computation, Egil and Pauline Braathen and Fred Kavli Ctr. for Cortical Microcircuits, NTNU Norwegian Univ. of Sci. and Technol.*

11:00 BB61 **336.08** ● ▲ Reduced cholinergic activity in the hippocampus of phosphatidylethanolamine-binding protein 1 knockout mice. Y. MADOKORO*; Y. YOSHINO; D. KATO; T. SATO; M. MIZUNO; T. KANAMORI; M. SHIMAZAWA; H. HIDA; H. HARA; K. OJIKA; N. MATSUKAWA. *Nagoya City Univ., Gifu Pharmaceut. Univ., Nagoya City Univ. Grad Sch. Med. Sci.*

8:00 BB62 **336.09** Mechanisms of inhibitory interneuronal network synchrony for type 1 versus type 2 excitability. R. A. TIKIDJI-HAMBURYAN*; C. C. CANAVIER. *Louisiana State Univ. Hlth. Sci. Ctr.*

9:00 BB63 **336.10** Circadian rhythm modulate the frequency of carbachol-induced beta oscillations in rat hippocampal slices. K. NATSUME*; M. SHIGEMOTO. *Kyushu Inst. Technol.*

10:00 BB64 **336.11** *In vivo* imaging of membrane potential dynamics in populations of hippocampal interneurons during network oscillation. Y. HUANG*; L. D. LAVIS; E. R. SCHREITER; B. LIN; T. CHEN. *Natl. Yang-Ming Univ., Howard Hughes Med. Institute, Janelia Farm Res. Campus.*

11:00 BB65 **336.12** Optical measurement of dendritic membrane potential in the behaving mouse hippocampus. A. NEGREAN*; D. HOLDER; J. ZHANG; M. CHAVARHA; M. Z. LIN; A. LOSONCZY. *Columbia Univ., Stanford.*

8:00 BB66 **336.13** Modulation of cortical population activity in resolving proactive interference. C. CAMMARATA*; E. D. DE ROSA. *Cornell Univ.*

9:00 BB67 **336.14** Cholinergic modulation of hippocampal theta and hippocampus-dependent trace and contextual fear conditioning. K. D. STEVANOVIC*; Z. GU; J. M. DEFILIPP; J. L. YAKEL; J. D. CUSHMAN. *Natl. Inst. of Envrn. Hlth. Sci.*

POSTER

337. Human Long-Term Memory: Medial Temporal Lobe II

Theme H – Cognition

Mon. 8:00 AM – *McCormick Place, Hall A*

8:00 BB68 **337.01** Direct assessment of effective connectivity and plasticity in the human hippocampal-cortical network. K. N. WARREN*; S. SCHUELE; S. VANHAERENTS; J. L. VOSS. *Northwestern Univ.*

9:00 BB69 **337.02** Aging alters frequency specificity of noninvasive brain stimulation effects on hippocampal network involvement in recollection precision. S. DAVE*; M. S. HERMILLER; A. NILAKANTAN; S. VANHAERANTS; J. L. VOSS. *Northwestern Univ., Northwestern Univ.*

10:00 BB70 **337.03** Pre-encoding activity in the hippocampus is related to subsequent memory. Z. J. URGOLITES; J. T. WIXTED*; L. R. SQUIRE; S. GOLDINGER; M. PAPESH; P. N. STEINMETZ. *UCSD, UC San Diego, Veterans Affairs San Diego Healthcare Syst., Arizona State Univ., Louisiana State Univ., NeurTex Brain Res. Inst.*

11:00 BB71 **337.04** Single-neuron phase coding of novelty in the human hippocampus. J. MILLER*; P. N. STEINMETZ; J. JACOBS. *Columbia Univ., NeurTex Brain Res. Inst.*

8:00 BB72 **337.05** ▲ Behavioural discrimination for gist of everyday scenes. N. V. HOANG*; F. N. AHMAD; M. MOSCOVITCH. *Rotman Res. Inst.*

9:00 BB73 **337.06** Organising knowledge for value generalisation. M. M. GARVERT*; N. SCHUCK; C. F. DOELLER. *MPI for Human Cognitive and Brain Sci., Max Planck Inst. For Human Develop.*

10:00 BB74 **337.07** Integrating knowledge from physical and conceptual spaces. D. KUHRT*; J. L. S. BELLMUND; R. KAPLAN; C. F. DOELLER. *Kavli Inst. for Systems Neuroscience, NTNU, MPI for Human Cognitive and Brain Sci., Donders Institute, Radboud Univ.*

11:00 BB75 **337.08** Cognitive map formation through tactile and visual exploration. L. OTTINK*; M. HOOGENDONK; T. M. VAN DER GEEST; R. J. A. VAN WEZEL; C. F. DOELLER. *Donders Institute, Radboud Univ., Hogeschool van Arnhem en Nijmegen, MPI for Human Cognitive and Brain Sci.*

8:00 BB76 **337.09** Spatial learning of abstract multimodal concepts. L. B. SANDØY*; J. B. JULIAN; L. SOMMER; C. F. DOELLER. *Kavli Inst. for Systems Neuroscience, NTNU, MPI for Human Cognitive and Brain Sci.*

9:00 BB77 **337.10** Conceptual relevance in cognitive space. S. THEVES*; G. FERNANDEZ; C. F. DOELLER. *MPI for Human Cognitive and Brain Sci., Donders Institute, Radboud Univ., Radboud Univ. Med. Ctr., Kavli Inst. for Systems Neuroscience, NTNU.*

• Indicated a real or perceived conflict of interest, see page 150 for details.
▲ Indicates a high school or undergraduate student presenter.
* Indicates abstract's submitting author

10:00 BB78 **337.11** Integrating episodic and spatial context signals in the hippocampus. A. NITSCH*; N. DE HAAS; L. DEUKER; C. F. DOELLER. *MPI for Human Cognitive and Brain Sci., Donders Institute, Radboud Univ., Ruhr-University Bochum, Kavli Inst. for Systems Neuroscience, NTNU.*

11:00 BB79 **337.12** A general framework for decoding behaviour from wide-band neural activity. M. FREY*; S. TANNI; C. PERRODIN; A. O'LEARY; M. NAU; J. KELLY; A. BANINO; C. F. DOELLER; C. BARRY. *Kavli Inst. for Systems Neuroscience, NTNU, UCL, Univ. Col. London, Univ. Col. London, Open Climate Fix, Deepmind, Max Planck Inst.*

8:00 BB80 **337.13** Predictive spatiotemporal integration in the human medial temporal lobe. I. POLTI*; M. NAU; R. KAPLAN; V. VAN WASSENHOVE; C. F. DOELLER. *Kavli Inst. for Systems Neuroscience, NTNU, CEA, DRF/Joliot, NeuroSpin; INSERM, U992, Cognitive Neuroimaging Unit, Univ. Paris-Sud; Univ. Paris-Saclay, Max Planck Inst. for Human Cognitive and Brain Sci.*

9:00 BB81 **337.14** Does hippocampal volume and/or tissue microstructure explain performance differences on hippocampal-dependent tasks? I. A. CLARK*; A. M. MONK; V. HOTCHIN; G. PIZZAMIGLIO; A. LIEFGREEN; N. WEISKOPF; M. F. CALLAGHAN; E. A. MAGUIRE. *Wellcome Ctr. for Human Neuroimaging, Univ. Col. London, Dept. of Neurophysics, Max Planck Inst. for Human Cognitive and Brain Sci.*

10:00 BB82 **337.15** Sleep and dreaming in people with focal bilateral hippocampal damage. G. SPANO*; G. PIZZAMIGLIO; C. MCCORMICK; I. A. CLARK; T. D. MILLER; F. D. WEBER; S. DE FELICE; J. O. EDGIN; C. R. ROSENTHAL; E. A. MAGUIRE. *Univ. Col. London, Univ. Clin. Bonn, Dept. of Neurology, Royal Free Hosp., Donders Inst. for Brain, Cognition and Behaviour, Univ. of Arizona, Univ. of Oxford.*

11:00 BB83 **337.16** Are scenes the smallest units of events? Evidence from hippocampal and vmPFC oscillatory dynamics. A. M. MONK*; D. N. BARRY; V. LITVAK; G. R. BARNES; E. A. MAGUIRE. *Wellcome Ctr. For Human Neuroimaging, UCL.*

8:00 BB84 **337.17** Imaging the human hippocampus in real-world contexts using wearable MEG. D. N. BARRY*; T. M. TIERNEY; S. MELLOR; R. BOWTELL; M. J. BROOKES; G. R. BARNES; E. A. MAGUIRE. *Univ. Col. London, Univ. of Nottingham.*

9:00 BB85 **337.18** Neural correlates of recognition memory in the human visual ventral stream. N. M. DE LA ROSA-RIVERA*; K. LEGER; N. BLAUCH; R. A. COWELL. *Univ. of Massachusetts Amherst, Brandeis Univ., Carnegie Mellon Univ., Univ. of Massachusetts.*

10:00 CC1 **337.19** Induced plasticity caused by regular and targeted mnemonic discrimination training: An fMRI approach. J. GÜSTEN*; D. BERRON; E. DÜZEL. *Inst. Cognitive Neurol. and Dementia Res., German Ctr. for Neurodegenerative Dis., Clin. Memory Res. Unit, Dept. of Clin. Sci. Malmö, Lund Univ., Inst. of Cognitive Neuroscience, Univ. Col. London.*

11:00 CC2 **337.20** Behavior-dependent directional tuning in the human navigation network. M. NAU*; T. NAVARRO SCHRÖDER; M. FREY; C. F. DOELLER. *Kavli Inst. for Systems Neuroscience, NTNU, MPI for Human Cognitive and Brain Sci.*

POSTER

338. Neural Correlates of Language Processing

Theme H – Cognition

Mon. 8:00 AM – *McCormick Place, Hall A*

8:00 CC3 **338.01** Individual differences in interpretation of an auditory narrative shape BOLD-synchrony between subjects. M. HAKONEN*; A. IKÄHEIMONEN; A. HÚLTEN; J. KAUTTONEN; M. KOSKINEN; F. LIN; A. LOWE; M. SAMS; I. JÄÄSKELÄINEN. *Aalto Univ. Sch. of Sci., Advanced Magnetic Imaging Ctr., Univ. of Helsinki, Univ. of Toronto.*

9:00 CC4 **338.02** Test title. C. ESCERA*; S. ARENILLAS-ALCÓN; T. RIBAS-PRATS; M. GÓMEZ-ROIG; J. COSTA-FAIDELLA. *Univ. of Barcelona, Univ. of Barcelona, Inst. de Recerca Sant Joan de Déu.*

10:00 CC5 **338.03** Cortical tracking of words during natural story comprehension. C. LUO; J. ZOU*; N. DING. *Zhejiang Univ., Zhejiang Univ., Zhejiang Univ.*

11:00 CC6 **338.04** What happens in the cerebral cortex when one says 'uh' or 'um'? Z. ALQATAN*; A. SUGIURA; Y. NAKAI; T. KAMBARA; B. H. SILVERSTEIN; E. ASANO. *Wayne State Univ. Sch. of Med., Wayne State Univ., Dept. of Neurolog. Surgery, Grad. Sch. of Education, Hiroshima Univ., Wayne State Univ., Children's Hosp. Michigan, Wayne State Univ.*

8:00 CC7 **338.05** Brain networks for speech understanding and mathematics computation - Evidence from task-evoked and tak-free BOLD activity. S. GENG*; M. ZHU; Y. LIU. *Beijing Normal Univ., State Key Lab. of Cognitive Neurosci. and.*

9:00 CC8 **338.06** Characterization of cortical correlates of syntax structures. S. MICERA*; F. ARTONI; I. SARTORI; G. LO RUSSO; S. F. CAPPA; A. MORO; E. CATRICALA'; F. BOTTONI. *Ecole Polytechnique Federale De Lausanne, Ecole Polytechnique Federale de Lausanne, Niguarda Hosp., IUSS Pavia, Humanitas.*

10:00 CC9 **338.07** The neural basis of program comprehension. A. A. IVANOVA*; S. SRIKANT; Y. SUEOKA; U. O'REILLY; E. FEDORENKO. *MIT, MGH.*

11:00 CC10 **338.08** Politeness in the oral complaints: Pauses and neural indicators during speech in English (L1/L2), Spanish (L1/L2) and heritage Spanish. N. ENRIQUEZ*; J. L. CONTRERAS-VIDAL; L. DIAZ. *Univ. of Houston, Univ. of Houston, Univ. Pompeu Fabra.*

8:00 CC11 **338.09** The canonical frequency bands reflect sleep-based memory consolidation of a modified miniature language. Z. R. CROSS*; L. ZOU-WILLIAMS; M. KOHLER; M. SCHLESEWSKY; R. F. HELFRICH; G. GASKELL; R. T. KNIGHT; I. BORNKESSEL-SCHLESEWSKY. *Univ. Of South Australia, Univ. of South Australia, Univ. of Adelaide, Univ. of California Berkeley, Univ. of York, Univ. of California Berkeley, Univ. of South Australia.*

9:00 CC12 **338.10** Different sources of predictions during natural reading: A co-registration study. B. BIANCHI*; R. LOREDO; J. R. CARDEN; V. JAICHENCO; T. VON DER MALSBURG; D. E. SHALOM; J. E. KAMIENKOWSKI. *Univ. De Buenos Aires, Univ. de Buenos Aires, Univ. of Potsdam, Univ. de Buenos Aires.*

10:00 CC13 **338.11** Electroencephalogram for context retrieval and temporal processing in understanding the implicit intention of a speaker in discourses. S. TOKIMOTO*; N. TOKIMOTO. *Mejiro Univ., Shobi Univ.*

• Indicated a real or perceived conflict of interest, see page 150 for details.
▲ Indicates a high school or undergraduate student presenter.
* Indicates abstract's submitting author

11:00 CC14 **338.12** VWFA resting connectivity in the skilled reading project. B. T. CARTER*; S. G. LUKE. *Brigham Young Univ., Brigham Young Univ.*

8:00 CC15 **338.13** ▲ Modulation of communicative intention through facial expression and its neural correlate. J. RASGADO-TOLEDO*; M. GIORDANO. *Univ. Nacional Autónoma de México.*

9:00 CC16 **338.14** Modulation of EEG partial directed coherence in creative writing. J. G. CRUZ-GARZA*; A. SUJATHA RAVINDRAN; C. RIVERA GARZA; J. L. CONTRERAS-VIDAL. *Univ. of Houston, Univ. of Houston.*

10:00 CC17 **338.15** Does it matter how it's written? The effect of misspelled words in sentence reading. J. F. QUIÑONEZ-BELTRAN*; F. R. GÓMEZ VELÁZQUEZ; V. D. RUIZ-STOVEL. *Univ. De Guadalajara, Univ. de Guadalajara.*

11:00 CC18 **338.16** Inhibitory transcranial magnetic stimulation to the left inferior frontal gyrus modulates verbal selection in controlled language tasks in a context dependent manner. J. P. ZIMMERMAN*; A. KELKAR; D. Y. HARVEY; J. D. MEDAGLIA; R. H. HAMILTON. *Univ. of Pennsylvania, Drexel Univ.*

8:00 CC19 **338.17** Word analogy relations predicted from addition and subtraction of fMRI activation patterns. M. WU*; A. J. ANDERSON; R. A. JACOBS; R. RAIZADA. *Univ. of Rochester.*

9:00 CC20 **338.18** Associations between resting-state and reading task lateralization of language-related cognitive networks. T. K. DAY; T. M. MADHYASTHA. *Univ. of Washington, Univ. of Minnesota, Univ. of Washington.*

10:00 CC21 **338.19** ▲ N400 in lexical decision of words and pseudowords on a Yuto-Nahua language: The case of Wixarika. D. L. CANELA; A. E. CARRILLO; W. F. LARA GALINDO; F. A. ROBLES*. *Univ. of Guadalajara.*

11:00 CC22 **338.20** Metaphors comprehension throughout development and its neural correlate. E. NAVARRETE*; E. VALLES-CAPETILLO; M. GIORDANO. *Inst. de Neurobiología.*

8:00 CC23 **338.21** Combining fMRI activation patterns and semantic vector representations to predict activation patterns for new concepts. R. J. VARGAS*; M. A. JUST. *Carnegie Mellon Univ.*

9:00 CC24 **338.22** Dynamics of effective connectivity between the human cortex and subthalamic nucleus during speech production. A. R. WEISS*; A. KORZENIEWSKA; W. J. LIPSKI; A. BUSH; A. CHRABASZCZ; N. E. CRONE; M. RICHARDSON. *Johns Hopkins Med. Inst., Univ. of Pittsburgh.*

10:00 CC25 **338.23** Investigating the role of first language flexibility in bilingual language development: An ERP study. A. LUQUE*; K. MORGAN-SHORT. *Univ. of Illinois at Chicago.*

11:00 CC26 **338.24** Two times four = Dos por cuatro: Bilinguals engage similar neurocognitive processes in both languages when verifying multiplication facts. V. R. CERDA*; N. Y. Y. WICHA. *Univ. of Texas At San Antonio.*

8:00 CC27 **338.25** Bilingual impact on left frontal lobe functionality for children's sentence processing. I. KOVELMAN*; N. WAGLEY; X. HU; A. BARON; L. BEDORE; T. SATTERFIELD; J. BOOTH; J. BRENNAN. *Univ. of Michigan, Univ. of Michigan, Univ. of Rhode Island, Temple Univ., Vanderbilt, Univ. of Michigan.*

9:00 CC28 **338.26** Monolinguals catch up to bilinguals on executive control, but not neural processing of sound, over the course of adolescence. J. KRIZMAN*; V. MARIAN; N. KRAUS. *Northwestern Univ.*

10:00 CC29 **338.27** Effects of language experience differ according to neuroanatomical metric. H. CLAUSSENIUS-KALMAN*; K. A. VAUGHN; P. ARCHILA-SUERTE; A. E. HERNANDEZ. *Univ. of Houston, Johnson Space Center, NASA.*

POSTER

339. Language Acquisition and Coding

Theme H – Cognition

Mon. 8:00 AM – *McCormick Place, Hall A*

8:00 CC30 **339.01** Rapid statistical learning in word segmentation. J. ZHANG*; Y. SHAO; M. XU; N. DING. *Zhejiang Univ., Ctr. for Brain Disorders and Cognitive Sci.*

9:00 CC31 **339.02** Is the bilingual brain different? An fNIRS comparison of bilingual and monolingual children. X. SUN*; K. ZHANG; J. KIM; N. NICKERSON; Y. LI; R. MARKS; F. HU; T. CHOU; T. TARDIF; I. KOVELMAN. *Univ. of Michigan, Natl. Taiwan Univ.*

10:00 CC32 **339.03** Mapping the neural correlates of covert and overt verb generation using high-density diffuse optical tomography. M. L. SCHROEDER*; R. L. ULBRICH; A. K. FISHELL; A. SHERAFATI; A. M. SVOBODA; J. P. CULVER; A. T. EGGEBRECHT. *Washington Univ. Sch. of Med. in St. Louis, Washington Univ. Sch. of Med. in St. Louis, Washington Univ. Sch. of Med. in St. Louis, Washington Univ. Sch. of Med. in St. Louis.*

11:00 CC33 **339.04** Reading acquisition through bilingual lens: fNIRS study of bilingual children. K. ZHANG*; X. SUN; J. KIM; N. NICKERSON; Y. LI; R. MARKS; F. HU; T. CHOU; T. TARDIF; I. KOVELMAN. *Univ. of Michigan, Univ. of Michigan, Natl. Taiwan Univ.*

8:00 CC34 **339.05** ▲ Does transcranial direct current stimulation of the dorsolateral prefrontal cortex effect language learning in young adults? A. J. BOLLING*; T. ENAM; V. KING; L. SCHROBILGEN; I. M. MCDONOUGH. *The Univ. of Alabama.*

9:00 CC35 **339.06** The effects of different learning mechanisms on speech segmentation. Y. CHEN*; P. JIN; N. DING. *Zhejiang Univ.*

10:00 CC36 **339.07** Bilingual Spanish-English literacy development: An fNIRS study of morphological awareness. N. NICKERSON*; X. SUN; K. ZHANG; R. A. MARKS; J. KIM; I. HERNANDEZ; V. CARUSO; X. XU; T. TARDIF; T. SATTERFIELD; I. KOVELMAN. *Univ. of Michigan.*

11:00 CC37 **339.08** ▲ A systematic review and meta-analysis of brain differences in bilingual and multilingual adults. A. DANYLKIV; A. J. KRAFNICK*. *Dominican Univ.*

8:00 CC38 **339.09** ● Cortical activation during sentence processing among Chinese-English bilinguals and English monolinguals: An fNIRS study. G. DING*; K. A. J. MOHR; R. GILLAM; C. ORELLANA; A. HANCOCK. *Utah State Univ.*

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▲ Indicates a high school or undergraduate student presenter.
* Indicates abstract's submitting author

9:00 CC39 **339.10** An integrated neural decoder of linguistic and experiential meaning. A. J. ANDERSON*; J. R. BINDER; L. FERNANDINO; C. J. HUMPHRIES; L. CONANT; R. D. RAIZADA; F. LIN; E. LALOR. *Univ. of Rochester, Med. Col. of Wisconsin, Med. Col. of Wisconsin, Med. Col. of Wisconsin, Univ. of Wisconsin, Univ. of Rochester, Univ. of Rochester Med. Ctr.*

10:00 CC40 **339.11** Sparse experimental design for encoding models. L. XU*; A. LEBEL; A. G. HUTH. *UT Austin.*

11:00 CC41 **339.12** Voxelwise encoding models of the cerebellum during natural speech processing. A. LEBEL*; S. JAIN; A. G. HUTH. *The Univ. of Texas At Austin, The Univ. of Texas At Austin.*

8:00 CC42 **339.13** Visually grounded language encoding models for fMRI highlight the influence of sensory experience on semantic representations. J. TANG*; A. LEBEL; A. G. HUTH. *The Univ. of Texas at Austin, The Univ. of Texas at Austin.*

9:00 CC43 **339.14** Processing syntactic and morphological violations in Spanish and Wixarika. A. GONZÁLEZ; D. L. CANELA*; F. A. ROBLES; W. F. LARA GALINDO. *Univ. De Guadalajara, Univ. de Guadalajara, Univ. de Guadalajara.*

10:00 CC44 **339.15** Computations underlying human speech processing from phoneme to semantic meaning. X. GONG*; J. L. GALLANT; F. E. THEUNISSEN. *Univ. of California Berkeley.*

11:00 CC45 **339.16** Functional connectivity of the right pars opercularis in American sign language. T. IKUTA*; E. MALAIA; R. WILBUR. *Univ. of Mississippi, Univ. of Alabama, Purdue Univ.*

8:00 CC46 **339.17** Low-frequency neural activity reflects rule-based chunking during speech listening. P. JIN*; T. ZHOU; N. DING. *Zhejiang Univ.*

9:00 CC47 **339.18** Predictability of electrocorticogram coherence using distributed semantic representation. N. SATO*; R. MATSUMOTO; A. SHIMOTAKE; M. MATSUHASHI; M. OTANI; T. KIKUCHI; T. KUNIEDA; H. MIZUHARA; R. TAKAHASHI; A. IKEDA. *Future Univ. Hakodate, Div. of Neurol., Kobe Univ. Grad. Sch. of Med., Dept. of Neurology, Kyoto Univ. Grad. Sch. of Med., Dept. of Epilepsy, Movement Disorders and Physiol., Kyoto Univ. Grad. Sch. of Med., Human Brain Res. Center, Kyoto Univ. Grad. Sch. of Med., Dept. of Neurosurg., Kyoto Univ. Grad. Sch. of Med., Dept. of Neurosurg., Ehime Univ. Grad. Sch. of Med., Kyoto Univ. Grad. Sch. of Informatics.*

10:00 CC48 **339.19** Characterizing the spatiotemporal pattern of neural activity and word representation during visual word recognition. L. K. LONG*; M. YANG; M. SPERLING; A. SHARAN; B. C. LEGA; A. BURKS; G. A. WORRELL; R. E. GROSS; B. C. JOBST; K. DAVIS; K. A. ZAGHLOUL; S. A. SHETH; J. STEIN; S. DAS; R. GORNIAK; P. A. WANDA; M. J. KAHANA; J. JACOBS; N. MESGARANI. *Columbia Univ., Columbia Univ., Columbia Univ., Thomas Jefferson Univ. Hosp., Thomas Jefferson Univ. Hosp., UT Southwestern Med. Ctr., Univ. of Texas Southwestern, Mayo Clin., Emory Univ. Sch. Med., Dartmouth-Hitchcock Med. Ctr., Hosp. of the Univ. of Pennsylvania, Natl. Inst. of Neurolog. Disorders and Stroke, NIH, Baylor Col. of Med., Hosp. of the Univ. of Pennsylvania, Univ. of Pennsylvania, Thomas Jefferson Univ. Hosp., Univ. of Pennsylvania, Columbia Univ., Columbia Univ.*

11:00 CC49 **339.20** Evolution of cognitive state during a conversation. A. E. HADJINICOLAOU*; G. BELOK; A. C. PAULK; C. V. IRWIN; J. W. LEE; Z. WILLIAMS; S. S. CASH. *Mass. Gen. Hosp., Brown Univ., Brigham & Women's Hosp., Mass. Gen. Hosp.*

8:00 CC50 **339.21** Statistical testing for event related causality (ERC) among human brain networks using multivariate autoregressive modeling at short time scales. A. KORZENIEWSKA*; P. J. FRANASZCZUK; N. E. CRONE. *Johns Hopkins Univ., US CCDC Army Res. Lab., Johns Hopkins Hosp.*

9:00 CC51 **339.22** ▲ EEG correlates of the verbal transformation effect. M. K. BRUCKER*; N. CASTRO; J. S. BRUMBERG; D. E. THOMPSON. *Kansas State Univ., Univ. of Washington, Univ. of Kansas.*

10:00 CC52 **339.23** The effect of lexical status on acoustic encoding in human auditory and perisylvian language cortices: Preliminary results from intracranial recordings. M. E. SARRETT*; K. SCHREIBER; H. KAWASAKI; M. A. HOWARD, III; B. MCMURRAY. *Univ. of Iowa, Univ. of Iowa Hosp. and Clinics.*

11:00 CC53 **339.24** ● ▲ Using multivariate pattern analysis on ECoG to characterize neural language pathways. A. CURTIS*; O. WOOLNOUGH; K. FORSETH; P. ROLLO; N. TANDON. *Rice Univ., Univ. of Texas Hlth. Sci. Ctr., Mem. Hermann Hospital, Texas Med. Ctr.*

8:00 CC54 **339.25** Improving language encoding for fMRI with transformers. S. JAIN*; A. LEBEL; A. G. HUTH. *The Univ. of Texas at Austin, The Univ. of Texas at Austin.*

9:00 CC55 **339.26** Decoding of semantic meaning at single cell resolution during human language perception. J. CAI*; B. L. GRANNAN; M. JAMALI; E. FEDORENKO; Z. WILLIAMS. *Massachusetts Gen. Hosp. - Harvard Med. Sch., MIT, Harvard-MIT Div. of Hlth. Sci. and Technol.*

10:00 CC56 **339.27** High-density intracranial recordings reveal evidence of speech tracking in dorsal premotor cortex. J. BEREZUTSKAYA*; C. BARATIN; Z. V. FREUDENBURG; N. F. RAMSEY. *Brain Ctr. Rudolf Magnus, Univ. of Utrecht.*

11:00 CC57 **339.28** Studying perceived language and semantic meaning in the prefrontal cortex at a single-cell resolution. B. L. GRANNAN*; M. JAMALI; J. CAI; E. FEDORENKO; Z. WILLIAMS. *Massachusetts Gen. Hosp., Massachusetts Gen. Hospital/Harvard Med. Sch., Massachusetts Gen. Hosp., MGH, Harvard Med. Sch.*

POSTER

340. Software Tools: Analysis I

Theme I – Techniques

Mon. 8:00 AM – *McCormick Place, Hall A*

8:00 CC58 **340.01** Unsupervised spike clustering via ensemble of autoencoders. J. EOM*; S. KIM; H. JANG; H. SHIN; Y. HUH; D. HWANG. *Yonsei Univ., Catholic Kwandong Univ.*

9:00 CC59 **340.02** ● ▲ PsychRNN: An open-source Python package for training artificial recurrent neural networks on cognitive tasks. J. T. STONE*; D. B. EHRLICH; D. BRANDFONBRENER; A. ATANASOV; J. D. MURRAY. *Yale Univ., Yale Univ., New York Univ., Harvard Univ., Yale Univ.*

• Indicated a real or perceived conflict of interest, see page 150 for details.
▲ Indicates a high school or undergraduate student presenter.
* Indicates abstract's submitting author

10:00 CC60 **340.03** The topology of time: Characterizing transitions in simulated neural dynamics using topological data analysis. M. ZHANG*; M. SAGGAR. *Stanford Univ.*

11:00 CC61 **340.04** Network inference from wide-field imaging data via parameter estimation of a feed-forward dynamic network model. M. G. MOORE*; C. YUN; J. KARIMI ABADCHI; M. YAN; M. H. MOHAJERANI; M. REIMERS. *Michigan State Univ., Cornell Univ., CCBN/University of Lethbridge, Michigan State Univ., Univ. of Lethbridge.*

8:00 CC62 **340.05** Context-aware *in-silico synthesis of protoplasmic astrocyte morphology.* E. ZISIS*; L. KANARI; S. DAGAR; D. KELLER; H. MARKRAM. *EPFL, Blue Brain Project.*

9:00 CC63 **340.06** Computational synthesis of dendritic morphologies within the rodent neocortex. L. KANARI*; W. VAN GEIT; B. COSTE; Y. SHI; K. HESS; H. MARKRAM. *EPFL, Blue Brain Project, EPFL, Lab. for Topology and Neurosci.*

10:00 CC64 **340.07** Impact of higher-order network structure on emergent cortical activity. M. NOLTE*; E. GAL; E. B. MULLER; H. MARKRAM; M. W. REIMANN. *EPFL, The Hebrew Univ.*

11:00 CC65 **340.08** Digital reconstruction and simulation of thalamic microcircuitry. E. IAVARONE*; J. YI; Y. SHI; H. MARKRAM; S. L. HILL. *EPFL, Blue Brain Project, EPFL, LNMC, CAMH, Krembil Ctr. for Neuroinformatics.*

8:00 CC66 **340.09** Improving performance of cellular simulation through more effective DSL translation and optimized compute engine for CPUs and GPUs. J. G. KING*; P. S. KUMBHAR; M. L. HINES; O. AWILE; L. KEEGAN; T. CAREL; I. MAGKANARIS; F. SCHUERMANN. *EPFL - Blue Brain Project, Yale Univ.*

9:00 CC67 **340.10** Data-driven integration of hippocampal CA1 synapse physiology *in silico.* A. ECKER*; A. ROMANI; S. SÁRAY; S. KÁLI; M. MIGLIORE; A. MERCER; H. MARKRAM; E. B. MULLER; S. RAMASWAMY. *EPFL, Blue Brain Project, Inst. of Exptl. Medicine, Hungarian Acad. of Sci., Natl. Res. Council, UCL Sch. of Pharm.*

8:00 DP15/CC68 **340.11** (Dynamic Poster) An automated tool for detecting dynamical chaos in the brain. D. TOKER*; F. T. SOMMER; M. DESPOSITO. *Univ. of California, Berkeley, Helen Wills Neurosci. Inst., Univ. of California Berkeley.*

11:00 CC69 **340.12** A low-cost, open-source control and timing system for training animals on behavioral tasks. H. B. SMITH; O. K. BOTONIS; I. OZDEN*. *Univ. of Missouri.*

8:00 CC70 **340.13** Robust and generalizable tracking of body parts of head-fixed mice. G. T. MEIJER*; M. M. SCHARTNER; V. AGUILLON RODRIGUEZ; N. BONACCHI; M. CARANDINI; F. CAZETTES; G. A. CHAPIUS; A. K. CHURCHLAND; Y. DAN; E. E. J. DEWITT; H. MARTINEZ VERGARA; M. FAULKNER; M. HAUSSER; F. HU; I. C. LARANJEIRA; Z. F. MAINEN; N. J. MISKA; T. D. MRSIC-FLOGEL; J. NOEL; A. PAN VAZQUEZ; L. M. PANINSKI; A. POUGET; K. Z. SOCHA; K. SVOBODA; A. E. URAI; M. R. WHITEWAY; O. WINTER; . IBL COLLABORATION. *Champalimaud Ctr. for the Unknown, Univ. of Geneva, Cold Spring Harbor Lab., Univ. Col. London, Univ. of California Berkeley, Sainsbury Wellcome Ctr., New York Univ., Princeton Univ., Columbia Univ., HHMI / Janelia Farm Res. Campus.*

9:00 CC71 **340.14** Pathfinder: Open source software for analyzing spatial navigation search strategies. M. B. COOKE*; T. P. O'LEARY; P. K. HARRIS; J. S. SNYDER. *Univ. of British Columbia.*

10:00 CC72 **340.15** Behavioural analysis toolbox for mice engaged in string-pulling task. M. H. MOHAJERANI*; S. INAYAT; S. SINGH; Q. QANDEEL; I. Q. WHISHAW. *Univ. of Lethbridge, Univ. Lethbridge.*

11:00 CC73 **340.16** IronClust > Drift-resistant, real-time spike sorting based on anatomical similarity for high channel-count silicon probes. J. J. JUN*; J. MAGLAND; C. MITELUT; A. H. BARNETT. *Flatiron Inst., Flatiron Inst., Columbia Univ.*

8:00 CC74 **340.17** Enhancing parametric models of neuroscientific data involving diverse covariance structures with the Union of Intersections (UoI) framework. A. KUMAR*; K. E. BOUCHARD. *Lawrence Berkeley Lab. and UC Berkeley.*

9:00 CC75 **340.18** Unsupervised extraction of dynamical features from noisy data with dynamical components analysis. D. G. CLARK*; J. A. LIVEZEY; K. E. BOUCHARD. *Lawrence Berkeley Natl. Lab., UC Berkeley.*

10:00 CC76 **340.19** SpikeForest - A large-scale reproducible spike sorting validation platform with an interactive web interface. J. MAGLAND*; J. J. JUN; E. LOVERO; A. J. MORLEY; A. BARNETT. *Flatiron Inst., Univ. of Oxford.*

11:00 CC77 **340.20** SpineYOLO: A web-based, deep learning tool for identification of dendritic spines. M. S. SMIRNOV*; B. SCHOLL; E. GONZALEZ; J. M. CHRISTIE; R. YASUDA. *Max Planck Florida Inst. for Neurosci., Max Planck Florida Inst., Max Planck Florida Inst.*

8:00 CC78 **340.21** SPARC initiative: Data alignment for proteomic, physiological, molecular and anatomical datasets from 36 research groups. G. PINE; T. GILLESPIE; A. BANDROWSKI*; S. TAPPAN; M. E. MARTONE. *UCSD, UCSD, MBF Biosci. - MicroBrightField Inc.*

POSTER

341. Electrical Methods to Modulate Neural Activity I

Theme I – Techniques

Mon. 8:00 AM – *McCormick Place, Hall A*

8:00 DD1 **341.01** A current balance phenomenon causes temporal interference stimulation. P. GROVER*; J. CAO; C. GOSWAMI; B. D. DOIRON. *Carnegie Mellon Univ., Univ. of Pittsburgh.*

9:00 DD2 **341.02** ● Suppression of essential tremor via phase-locked driven disruption of temporal coherence. S. SCHREGLMANN; D. WANG; R. PEACH; X. ZHANG; J. LI; E. PANELLA; E. S. BOYDEN; M. BARAHONA; S. SANTANIELLO; K. P. BHATIA; J. C. ROTHWELL; N. GROSSMAN*. *Univ. Col. London, Massachussetts Inst. of Technol., Imperial Col. London, Univ. of Connecticut, Imperial Col. London, Imperial Col. London, MIT.*

10:00 DD3 **341.03** Neurons have unequal sensitivity to transcranial ultrasound neuromodulation. X. NIU*; K. YU; E. I. KROOK-MAGNUSON; B. HE. *Carnegie Mellon Univ., Univ. of Minnesota Syst.*

11:00 DD4 **341.04** Late enhancement of sustained attention with cortical priming prior to rTMS. G. EDWARDS*; F. CONTÒ; L. BATTELLI. *Ctr. for Neurosci. and Cognitive Systems@UniTn.*

8:00 DD5 **341.05** ● Temporal interference stimulation to activate respiratory motor pools. M. D. SUNSHINE*; E. NEUFELD; A. M. CASSARA; N. GROSSMAN; K. J. OTTO; E. S. BOYDEN; D. D. FULLER. *Univ. of Florida, IT'IS Fndn., IT'IS Fndn., Imperial Col. London, Univ. of Florida, MIT.*

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* Indicates abstract's submitting author

9:00 DD6 **341.06** Deep brain stimulation via temporal interference stimulation using implanted DBS electrodes. A feasibility study. A. M. CASSARA*; E. NEUFELD; H. BERGMAN; E. S. BOYDEN; N. GROSSMAN; N. KUSTER. *IT'IS Fndn., Hebrew Univ., MIT, Imperial Col. London, ETHZ.*

10:00 DD7 **341.07** ● Multi-locus transcranial magnetic stimulation for closed-loop brain stimulation. R. J. ILMONIEMI*; G. ROMANI; U. ZIEMANN. *Aalto Univ., Gabriele D'Annunzio Univ. of Chieti-Pescara, Eberhard Karls Univ.*

11:00 DD8 **341.08** ● Augmentation of transcutaneous electrical stimulation of the peripheral nervous system using the Injectrode, an injectable minimally-invasive electrode that cures *in vivo.* J. K. TREVATHAN*; I. W. BAUMGART; E. N. NICOLAI; B. A. GOSINK; M. L. SETTELL; B. E. KNUDSEN; M. FRANKE; A. J. SHOFFSTALL; K. A. LUDWIG. *Univ. of Wisconsin, Mayo Clin. Grad. Sch. of Biomed. Sci., Mayo Clin., Univ. of Wisconsin, Neuronoff Inc., Case Western Reserve Univ., Louis Stokes Cleveland Veterans Affairs Med. Ctr., Univ. of Wisconsin, Univ. of Wisconsin.*

8:00 DD9 **341.09** Connecting intrafascicular recordings, electromyography of the neck muscles, and functional magnetic resonance imaging during clinical vagus nerve stimulation in swine. E. N. NICOLAI; M. L. SETTELL; E. K. ROSS; J. K. TREVATHAN; B. E. KNUDSEN; A. L. MCCONICO; A. J. SUMINSKI; J. C. WILLIAMS; K. A. LUDWIG*. *Mayo Clin., Univ. of Wisconsin, Cala Hlth.*

9:00 DD10 **341.10** Electrical stimulation of the cervical vagus nerve in mice modulates CSF penetrance into the brain parenchyma. K. P. CHENG*; S. BRODNICK; S. BLANZ; W. ZENG; J. KEGEL; J. PISANIELLO; J. NESS; E. K. ROSS; E. N. NICOLAI; M. L. SETTELL; A. SUMINSKI; K. A. LUDWIG; J. C. WILLIAMS. *Univ. of Wisconsin-Madison, Univ. of Wisconsin-Madison, Cala Hlth., Mayo Clin.*

10:00 DD11 **341.11** Effects of electrical stimulation of the infraorbital branch of the trigeminal nerve on oscillatory activity in the barrel cortex. J. P. NESS*; W. ZENG; P. PARMETT; J. KEGAL; S. K. BRODNICK; K. P. CHENG; L. KRUGNER-HIGBY; W. B. LAKE; K. A. LUDWIG; J. C. WILLIAMS; A. J. SUMINSKI. *Univ. of Wisconsin-Madison, Univ. of Wisconsin-Madison, Univ. of Wisconsin-Madison, Univ. of Wisconsin-Madison.*

11:00 DD12 **341.12** Transcranial direct-current stimulation on mice somatosensory cortex induce GABA-related asymmetric effects. C. SANCHEZ-LEON; I. CORDONES; M. GOMEZ-CLIMENT; A. CARRETERO-GUILLEN; G. CHERON; J. F. MEDINA; J. MARQUEZ-RUIZ*. *Univ. Pablo de Olavide, Univ. Internacional de la Rioja, Achucarro Basque Ctr. for Neurosci., Univ. Libre De Bruxelles, Univ. de Mons, Baylor Col. of Med.*

8:00 DD13 **341.13** Impact of cerebellar tDCS on motor performance and Purkinje cell activity in mice. A. SANCHEZ-LOPEZ*; S. OHMAE; J. MARQUEZ-RUIZ; J. F. MEDINA. *Baylor Col. of Med., División de Neurociencias. Univ. Pablo de Olavide.*

9:00 DD14 **341.14** Impact of cerebellar tDCS on morphologically identified Purkinje cells and cerebellar sensory inputs. C. SANCHEZ-LEON*; I. CORDONES; A. SANCHEZ-LOPEZ; G. CHERON; J. F. MEDINA; J. MARQUEZ-RUIZ. *Univ. Pablo de Olavide, Baylor Col. of Med., Univ. Libre de Bruxelles, Univ. de Mons.*

10:00 DD15 **341.15** Changes in evoked coherence in subregions of the striatum and substantia nigra pars reticulata in anesthetized rats. H. LI*; G. C. MCCONNELL. *Stevens Inst. of Technol., Stevens Inst. of Technol.*

11:00 DD16 **341.16** Probing the activity of neuronal networks using graphene-mediated optical stimulation. E. MOLOKANOVA*; V. CHERKAS; X. SHAN; A. ALMENAR-QUERALT; A. R. MUOTRI; A. SAVTCHENKO. *Nanotools Biosci., Bogomoletz Inst. for Physiol., UCSD, UCSD.*

8:00 DD17 **341.17** A causal network analysis of neuromodulation in the cortico-subcortical mesolimbic network. S. QIAO*; K. BROWN; J. I. SEDILLO; B. FERRENTINO; B. PESARAN. *New York Univ., NYU.*

9:00 DD18 **341.18** Neuromodulatory effects of transcranial direct current stimulation on motor excitability and inhibition in rats. T. HSIEH*; H. LIU; C. JUAN; A. ROTENBERG; Y. PEI; Y. HUANG. *Chang Gung Univ., Chang Gung Mem. Hosp., Sun Yat-Sen Mem. Hosp., Natl. Central University, Taiwan, Boston Children's Hosp., Chang Gung Mem. Hosp. at Linkou, Chang Gung Mem. Hosp. and Chang Gung Univ. Col. of Med.*

10:00 DD19 **341.19** Neural elements mediating side effects during cervical vagus nerve stimulation in the pig. E. N. NICOLAI*; M. L. SETTELL; E. K. ROSS; B. E. KNUDSEN; A. MCCONICO; N. A. PELOT; W. M. GRILL; J. C. WILLIAMS; K. A. LUDWIG. *Mayo Clin., Univ. of Wisconsin, Cala Hlth., Duke Univ.*

11:00 DD20 **341.20** Evaluating the target engagement in focal transcranial magnetic stimulation (TMS) of the rat brain. S. CERMAK; K. PENG; Q. MENG; C. MEJIAS-APONTE; C. J. JORDAN; K. MOUSSAWI; Z. XI; Y. YANG; H. LU*. *Natl. Inst. on Drug Abuse, Natl. Inst. On Drug Abuse, Natl. Inst. on Drug Abuse, NIDA.*

8:00 DD21 **341.21** An algorithm for predicting cortical activation by transcranial magnetic stimulation. G. ARABKHERADMAND; F. SALINAS; P. FOX; D. MOGUL*. *Illinois Inst. of Technol., Univ. of Texas.*

9:00 DD22 **341.22** Modeling the cellular effects of transcranial electrical stimulation on the cerebellum. X. ZHANG*; R. HANCOCK; S. SANTANIELLO. *Univ. of Connecticut, Univ. of Connecticut, Univ. of Connecticut, Univ. of Connecticut.*

10:00 DD23 **341.23** Effects of tDCS on spontaneous spike activity in a healthy ambulatory rat model. S. MILIGHETTI; S. STERZI; F. FREGNI; C. A. HANLON; P. HAYLEY; M. D. MURPHY; R. J. NUDO; D. J. GUGGENMOS*. *Campus Bio-Medico Univ., Campus Bio-Medico Univ., Harvard Med. Sch., Med. Univ. of South Carolina, Univ. of Kansas Med. Ctr., Univ. of Kansas, Univ. of Kansas Med. Ctr.*

11:00 DD24 **341.24** Optimization of transcranial temporal interference stimulation of targets of interest using realistic human head models. S. RAMPERSAD*; B. ROIG-SOLVAS; M. YAROSSI; E. SANTARNECCHI; A. D. DORVAL; D. H. BROOKS. *Northeastern Univ., Northeastern Univ., Harvard Med. Sch., Univ. of Utah.*

8:00 DD25 **341.25** Transcranial direct current stimulation (tDCS) prevents chronic stress-induced hyperalgesia in rats. I. L. S. TORRES*; I. C. MACEDO; L. N. SPEZIA-ADACHI; V. L. SCARABELOT; G. LASTE; A. SOUZA; P. R. S. SANCHES; F. FREGNI; W. CAUMO. *UFRGS - Univ. Federal Do Rio Grande Do Sul, HCPA - Hosp. de Clínicas de Porto Alegre, Unipampa - Univ. Federal do Pampa, Ctr. Universitário Univates, Unilasalle - Ctr. Universitário Unliasalle, Harvard Med. Sch.*

9:00 DD26 **341.26** Exploring depth spread of the induced electric field in transcranial magnetic stimulation with small parallel coils. H. BAGHERZADEH*; Q. MENG; J. BADJO; X. DU; L. HONG; F. CHOA. *Univ. of Maryland, Baltimore County, NIH IRP, Univ. of Maryland Sch. of Med.*

Mon. AM

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10:00 DD27 **341.27** ● Transcranial focal electrical stimulation effect on neuronal activity mediated through early gene expression. L. A. BAUTISTA OROZCO; S. OROZCO-SUAREZ; L. L. ROCHA; W. G. BESIO*. *Inst. Mexicano Del Seguro Social, CINVESTAV, Univ. of Rhode Island/ CREmedical Corp.*

11:00 DD28 **341.28** Induced and sustained entrainment of oscillatory brain activity in the human EEG after combining repetitive transcranial magnetic stimulation (rTMS) with transcranial alternating current stimulation (tACS). A. JAMIL*; T. HOSSEINIAN; M. KUO; M. A. NITSCHE. *Leibniz Res. Ctr. For Working Envrn. And Human Factors, Leiniz Res. Ctr. for Working Envrn. and Human Factors, Leibniz Res. Ctr. For Working Envrn., Leibniz Res. Ctr. For Working Envrn. An.*

POSTER

342. Optogenetics II

Theme I – Techniques

Mon. 8:00 AM – *McCormick Place, Hall A*

8:00 DD29 **342.01** Luminance and pattern discrimination in visual cortex (V1) of transgenic Opto-mGluR6 mice. A. BHATTACHARYYA*; S. KLEINLOGEL. *Inst. For Physiol., Physiol.*

9:00 DD30 **342.02** Optogenetic calcium sensor, voltage indicator and chemogenetic mouse models available from the Jackson Laboratory. J. BECKWITH*; S. ROCKWOOD; C. LUTZ. *The Jackson Lab.*

10:00 DD31 **342.03** An open database for optogenetics in nonhuman primates. S. TREMBLAY*; C. REVSINE; M. PLATT. *Univ. of Pennsylvania.*

11:00 DD32 **342.04** Optogenetically driven electromyographic response characteristics and modulation strategies for peripheral motor stimulation. J. J. WILLIAMS*; A. B. SCHWARTZ; A. VAZQUEZ. *Univ. of Pittsburgh, Univ. of Pittsburgh Dept. of Neurobio., Univ. of Pittsburgh.*

8:00 DD33 **342.05** How does optogenetic modulation of the locus coeruleus affect the neuronal network activity in the cortex? D. MERCAN*; M. POFAHL; N. NIKBAKHT; S. SCHWARTZ; H. W. BECK; M. FUHRMANN; M. T. HENEKA. *Univ. of Bonn Med. Ctr., Univ. of Bonn, German Ctr. for Neurodegenerative Dis. (DZNE).*

9:00 DD34 **342.06** Optogenetic activation of GABAergic cortical neurons as a robust method for reversible inactivation in macaques. A. DE*; Y. EL-SHAMAYLEH; G. D. HORWITZ. *Univ. of Washington, Washington Natl. Primate Res. Ctr., Grad. Program in Neuroscience, Univ. of Washington, Columbia Univ., Zukerman Mind Brain Behavior Inst.*

10:00 DD35 **342.07** Optogenetic manipulation of top-down feedback in mouse visual cortex. A. BROGGINI*; I. ONORATO; C. URAN; A. TZANOU; M. VINCK. *Ernst Strüngmann Inst.*

11:00 DD36 **342.08** Novel molecular tools for targeted subcellular neuronal transgene expression and neural circuit dissection. A. D. WYKES*; M. DEL ROSSO DE MELO; S. L. GORDON; L. M. PALMER; A. M. ALLEN; R. A. D. BATHGATE. *The Florey Inst. of Neurosci. and Mental Hlth., The Univ. of Melbourne, The Univ. of Melbourne, The Univ. of Melbourne.*

8:00 DD37 **342.09** Optogenetic silencing of neurotransmitter release with a naturally-occurring invertebrate rhodopsin. M. MAHN; I. SARAF-SINIK; P. PATIL; M. PULIN; B. ROST; R. LEVY; E. BITTON; S. PALGI; I. DAVIDI; D. SCHMITZ; J. WIEGERT; O. YIZHAR*. *Weizmann Inst. of Sci., Ctr. for Mol. Neurobio., Charité-Universitätsmedizin.*

9:00 DD38 **342.10** Optogenetic tool for spatiotemporal RNA visualization and manipulation. Y. D. RIANI*; W. WANG. *Life Sci. Inst., Univ. of Michigan-Ann Arbor.*

10:00 DD39 **342.11** ▲ Engineering a red-shifted genetically encoded glutamate sensor for two-photon imaging. A. AGGARWAL*; K. PODGORSKI. *Univ. of Alberta, HHMI.*

11:00 DD40 **342.12** A novel optogenetic molecular probe for light-induced inhibition of vesicular release. J. WON*; C. J. LEE; W. HEO. *KAIST/IBS, IBS, IBS/KAIST.*

8:00 DD41 **342.13** TRPswitch — A step function chemo-optogenetic ligand for the vertebrate TRPA1 channel. P. LAM*; A. R. THAWANI; E. BALDERAS; D. CHAUDHURI; M. J. FUCHTER; R. T. PETERSON. *Univ. of Utah, Imperial Col. London, Univ. of Utah.*

9:00 DD42 **342.14** Altering synaptic composition with a novel optogenetic approach. A. BAREGHAMYAN*; G. G. GROSS; X. LU; W. ZHANG; R. E. CAMPBELL; D. B. ARNOLD. *USC, Univ. of Alberta.*

10:00 DD43 **342.15** Photosensitive regulation of voltage-gated potassium currents. H. H. JERNG; J. PATEL; B. R. ARENKIEL; P. J. PFAFFINGER*. *Baylor Col. of Med., Baylor Col. of Med.*

11:00 DD44 **342.16** Wide-field multi-scale areal parcellation of neural circuits in mice. L. M. BRIER*; J. R. BUMSTEAD; H. B. BANKS; A. R. BICE; J. P. CULVER. *Washington Univ. In St. Louis.*

8:00 DD45 **342.17** Mesoscopic imaging of optogenetically-evoked motor maps reveals patterns of cortical activation specific for movement category. E. MONTAGNI*; F. RESTA; G. DE VITO; A. SCAGLIONE; A. ALLEGRA MASCARO; F. S. PAVONE. *LENS - European Lab. for Non-linear Spectroscopy, Univ. of Florence.*

9:00 DD46 **342.18** Real-time neural feedback of mesoscale cortical gcamp6 signals using raspberry-pi. P. K. GUPTA*; T. H. MURPHY. *Univ. of British Columbia.*

10:00 DD47 **342.19** Random access 3D photostimulation and calcium imaging for *in vivo* cortical measurements using acousto-optical two-photon microscopy. C. J. CSUPERNYÁK*; G. SZALAY; M. MAROSI; G. KATONA; K. ÓCSAI; R. BOLLA; A. FEHÉR; M. VERESS; Á. SZEPESI; B. ROZSA. *IEM HAS, Budapest Univ. of Technol. and Econ., Pázmány Péter Catholic Univ.*

11:00 DD48 **342.20** ● Characterization and modelling of temporally precise two-photon optogenetics experiments. D. TANESE*; V. ZAMPINI; I. BENDIFALLAH; A. PICOT; F. BUI; K. KILBORN; O. ASSAYAG; E. BAMBERG; B. FORGET; V. EMILIANI. *Vision Inst., 3i, Max Planck Inst. of Biophysics.*

8:00 DD49 **342.21** *In vivo* holographic photo-stimulation and two photon GCaMP6 imaging of vagus nerve axons using a GRIN lens integrated nerve cuff. A. K. FONTAINE; G. L. FUTIA; S. LITTICH; C. MCCULLOUGH; D. RESTREPO; R. F. WEIR; J. H. CALDWELL; E. A. GIBSON*. *Univ. of Colorado Anschutz Med. Campus, Univ. of Colorado Anschutz Med. Campus.*

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9:00 DD50 **342.22** Cerebral hemodynamics are differentially regulated by excitatory and inhibitory neural circuits. J. LEE; A. BICE; Z. ROSENTHAL; J. LEE; A. Q. B. BAUER*. *Washington Univ. in St. Louis, Washington Univ.*

Mon. AM

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LECTURE *McCormick Place*

264. SPECIAL LECTURE- Active Touch, Pain, and Anesthesia — CME

Mon. 12:00 PM - 1:10 PM — Hall B

Speaker: F. WANG, *Duke Univ. Med. Ctr.*

This lecture will discuss studies aimed at understanding the neural basis of somatosensory perception. Specifically, three areas of research will be presented including: peripheral and brainstem sensory and motor circuits underlying exploratory touch behaviors; neural circuits processing the sensory-discriminative and the affective aspects of orofacial pain; and neural circuits mediating the analgesic (pain-suppression) functions of general anesthesia, especially the identification of an anesthesia-activated circuit in the amygdala that potently suppresses pain.

SYMPOSIUM *McCormick Place*

344. From Single-Cell Profiling to Human Brain Organoids: Capturing Neural Development and Disease — CME

Mon. 1:30 PM - 4:00 PM — Room: S100A

Chair: S. P. PASCA, *Stanford University*
Co-Chair: H. SONG. *Perelman Sch. of Med.*

A critical challenge in understanding human brain development and disease has been the lack of direct access to functioning human neural tissue for detailed molecular investigation. This symposium will introduce recent advances in generating stem cell-derived neurons and glial cells in preparations known as brain organoids and assembloids. Moreover, it will illustrate how single-cell genomic & transcriptomic methods as well as studies of RNA and DNA modifications are advancing our understanding of neural development and disease.

1:30 **344.01** Introduction.

1:35 **344.02** Dissecting brain organoids with single-cell genomics. B. TREUTLEIN. *Max Planck Inst. for Evolutionary Anthrop.*

2:10 **344.03** Dynamic post-transcriptional mechanisms governing cortical development and disease. D. L. SILVER. *Duke Univ. Med. Ctr.*

2:45 **344.04** Assembling tridimensional human brain models to study development and disease. S. P. PASCA. *Stanford Univ.*

3:20 **344.05** Epitranscriptomic regulation of neurogenesis, plasticity and regeneration. H. SONG. *Perelman Sch. of Med.*

3:55 **344.06** Closing Remarks.

SYMPOSIUM *McCormick Place*

345. Cortical Disinhibitory Circuits: Cell Types, Connectivity, and Function — CME

Mon. 1:30 PM - 4:00 PM — Room: S100BC

Chair: L. TOPOLNIK, *Laval University*

The concept of cortical disinhibition has recently arisen as an important mechanism for information flow during complex behavioral tasks. Identifying the neuron types involved in cortical disinhibition, their connectivity patterns, and their functional role is therefore critical to understanding the structure and function of disinhibitory circuits. This symposium brings together leading scientists from around the world to present the latest discoveries on the dynamic organization of cortical microcircuits with focus on disinhibition and its role in cognition and behavior.

1:30 **345.01** Introduction.

1:35 **345.02** OLMa2 cells in bidirectional modulation of CA1 microcircuits and behavior. K. KULLANDER. *Uppsala Univ.*

2:10 **345.03** Hippocampal disinhibitory circuits: Cell types, connectivity and network state-dependent recruitment in awake mice. L. TOPOLNIK. *CRCHUQ-CHUL, Laval Univ.*

2:45 **345.04** Layer-specific organization of cortical disinhibitory circuits. X. JIANG. *Baylor Col. of Medicine, Duncan Neurolog. Res. Inst. at Texas Children's Hosp.*

3:20 **345.05** Top-down control of cortical processing during behavior. J. LETZKUS. *Max Planck Inst. for Brain Res.*

3:55 **345.06** Closing Remarks.

MINISYMPOSIUM *McCormick Place*

346. Necroptosis and Other Non-Apoptotic Processes in Microglial Pathophysiology and Neurologic Diseases — CME

Mon. 1:30 PM - 4:00 PM — Room: S105

Chair: D. OFENGEIM, *Sanofi*

An emerging view is that inflammation and altered innate immunity drive the pathophysiology of neurodegenerative diseases. The identification of a RIPK1-mediated necroptotic pathway that sits at the intersection of cell death and inflammation presents a new opportunity to explore the role of inflammation in degenerative diseases. This minisymposium will explore the immune response in the context of cellular stress in neurodegenerative diseases.

1:30 **346.01** Introduction.

1:35 **346.02** Tuning Apoptosis and Neuroinflammation: TBK1 Suppresses RIPK1 during Development and in Aging. D. XU. *Harvard Med. Sch.*

1:55 **346.03** Activation of necroptosis signalling in multiple sclerosis grey matter. R. REYNOLDS. *Imperial Col. London.*

2:15 **346.04** Mitophagy Mitigates STING-Mediated Inflammation. D. SLITER. *NINDS.*

2:35 **346.05** Shifting Microglial function in disease. M. KERSCHENSTEINER. *Ludwig-Maximilians Univ. of Munich.*

2:55 **346.06** Understanding microglial phenotypes in disease. O. BUTOVSKY. *Brigham and Women's Hosp.*

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3:15 **346.07** Microglial turnover as a dynamic node of regulation in neurodegenerative disease. D. OFENGEIM. *Sanofi.*

3:35 **346.08** Closing Remarks.

MINISYMPOSIUM *McCormick Place*

347. What Do Neurons Want? — CME

Mon. 1:30 PM - 4:00 PM — Room: S102

Chair: G. KREIMAN, *Harvard Medical School*
Co-Chair: C. R. PONCE. *Washington Univ. at St. Louis*

Sixty years after Hubel and Wiesel, there remain important questions about the shapes that visually responsive neurons learn to abstract from the natural world. Recent advances in computational neuroscience have paved the way to rethinking neural coding for visual shapes. This minisymposium will discuss recent findings and theories about neuronal representations in the visual cortex, as revealed through experiments, simulations and the novel use of machine learning tools including generative neural networks.

1:30 **347.01** Introduction.

1:35 **347.02** Cortical computations in the ventral visual pathway from areas V1 to V4. T. O. SHARPEE. *Salk Inst.*

1:55 **347.03** The central-peripheral dichotomy in the top-down Feedback in visual recognition. L. ZHAOPING. *Max Planck Inst. For Biol. Cybernetics and Univ. of Tuebingen.*

2:15 **347.04** Why and how do deep convolutional network models work? T. A. POGGIO. *MIT.*

2:35 **347.05** Shape encoding in the ventral visual pathway. C. E. CONNOR. *Johns Hopkins Univ.*

2:55 **347.06** Understanding and Visualizing Artificial Neural Networks. A. NGUYEN. *Auburn Univ.*

3:15 **347.07** Evolving super stimuli for real neurons using a deep generative network. M. S. LIVINGSTONE. *Harvard Med. Sch.*

3:35 **347.08** Closing Remarks.

MINISYMPOSIUM *McCormick Place*

348. Awakening the Engram: The Etiological Role of Engram Cells for Memory Formation, Storage, and Retrieval in Health and Disease — CME

Mon. 1:30 PM - 4:00 PM — Room: S406A

Chair: J. GRÄFF, *EPFL*
Co-Chair: T. J. RYAN. *Trinity Col. Dublin*

Converging evidence over the past several years suggests that memories are stored at least in part as specific populations of ?engram? cells. In this symposium, leading experts in engram biology share their continuously refined insights on how engram cells contribute to information encoding and storage, across diverse brain regions and behavioral modalities. Particular emphasis is placed on their emerging translational value for memory dysfunctions in age and stress-related disorders.

1:30 **348.01** Introduction.

1:35 **348.02** Imaging memory traces over half a life-time in the medial temporal lobe. M. SAUVAGE. *Leibniz Institute for Neurobiology.*

1:55 **348.03** Mechanisms of information storage in engram cells. T. RYAN. *Trinity College Dublin.*

2:15 **348.04** Finding the engram: Activation of dentate gyrus memory traces rescues age-related cognitive decline. C. A. DENNY. *Columbia University.*

2:35 **348.05** Understanding how hippocampal microcircuits support engram dependent indexing in adulthood and aging. N. GUO. *Harvard University.*

2:55 **348.06** Socially-induced reinstatement of a contextual fear engram. S. RAMIREZ. *Boston University.*

3:15 **348.07** Rewrite or overwrite - Identifying the neuromolecular circuits of remote fear memory attenuation. J. GRÄFF. *Brain Mind Institute, EPFL.*

3:35 **348.08** Closing Remarks.

DUAL PERSPECTIVES *McCormick Place*

349. Does Adult Neurogenesis Occur in the Human Brain?

Mon. 1:00 PM - 2:00 PM — Room: S406B

Speaker: A. ALVAREZ-BUYLLA, *UCSF.*

Speaker: M. LLORENS-MARTIN, *Universidad Autonoma De Madrid.*

Whether neurogenesis continues in the adult human brain has been contested for decades. Adult neurogenesis is a fascinating phenomenon involving the birth, migration and functional integration of a new neuron into established neural networks. In this Dual Perspectives session, Dr. Llorens-Martín will present recent evidence supporting and Dr. Alvarez-Buylla will present recent evidence questioning the presence of new neurons in the adult human hippocampus.

LECTURE *McCormick Place*

350. ALBERT AND ELLEN GRASS LECTURE- Neural Learning Rules in the Cerebellum — CME

Mon. 3:15 PM - 4:25 PM — Hall B

Speaker: J. L. RAYMOND, *Stanford Univ. Sch. of Med.*

The cerebellum is known for its role in motor learning, and is increasingly implicated in cognitive functions such as navigation, reward prediction, emotion, and social behavior. Its simple, repeated circuit architecture facilitates study of the functional links between events occurring at the molecular, cellular, circuit and behavioral levels as the cerebellum computes. By leveraging this analytical advantage, recent work has yielded new insight in the principles governing how neural circuits tune their performance through experience.

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LECTURE *McCormick Place*

351. PRESIDENTIAL SPECIAL LECTURE- The Cell Biology of the Synapse and Behavior — CME

Mon. 5:15 PM - 6:30 PM ── Hall B

Speaker: D. A. COLÓN-RAMOS, *Yale Univ. Sch. of Med.*

When, where, and how synapses form underpin the architecture of the nervous system and behaviors. Synapses are both precisely assembled during development and flexible during learning and memory. How can synapses be both precise and malleable to facilitate both the assembly and function of the brain? This lecture will discuss new findings that link the fundamental cell biological properties of single synapses to how they underpin the emergent property of the nervous system: behavior.

NANOSYMPOSIUM

352. Genetic Models for Autism Spectrum Disorders

Theme A – Development

Mon. 1:00 PM – *McCormick Place, S405*

1:00 **352.01** Synaptic and circuit mechanisms of visual experience-dependent impairments in Fmr1 KO mice. S. T. KISSINGER; Q. WU; C. J. QUINN; A. A. CHUBYKIN*. *Purdue Univ.*

1:15 **352.02** Dissecting circuit dynamics underlying impaired perceptual learning in a mouse model of autism. A. GOEL*; L. SCHMITT; G. CHAUDHARI; B. TODISCO; N. AHMED; E. PEDAPATI; C. A. ERICKSON; C. PORTERA-CAILLIAU. *Univ. of California, Cincinnati Children's Hosp. Med. Ctr., UCLA.*

1:30 **352.03** Reduced prefrontal synaptic connectivity and disturbed oscillatory population dynamics in the CNTNAP2 model of autism. P. GOLSHANI*; M. T. LAZARO; J. TAXIDIS; T. SHUMAN; I. BACHMUTSKY; T. IKRAR; R. A. SANTOS; G. M. MARCELLO; A. L. MYLAVARAPU; S. CHANDRA; D. TRAN; K. Y. CHOE; S. C. MASMANIDIS; B. L. RACZ; X. XU; D. H. GESCHWIND. *UCLA Dept. of Neurol., UCLA, Mount Sinai, UCSF, Univ. of California, Irvine, Univ. of California, Irvine, Univ. of Vet. Med. Budapest, UCLA, UCLA, UCLA, Univ. of Vet. Med., Univ. California, Irvine.*

1:45 **352.04** Cell type specific TRAP-seq identifies novel mechanisms in mouse models of autism. E. K. OSTERWEIL*; S. R. THOMSON; S. S. SEO; S. R. LOUROS; S. BARNES; M. MUSCAS. *Univ. of Edinburgh.*

2:00 **352.05** Impaired experience-dependent plasticity in anterior cingulate cortex in a mouse model of Angelman syndrome. M. S. SIDOROV*; H. KIM; M. ROUGIE; J. J. SIEGEL; J. P. GAVORNIK; B. D. PHILPOT. *Univ. of North Carolina, Baylor Col. of Med., Boston Univ., Univ. North Carolina.*

2:15 **352.06** Disrupted experience-dependent changes in CA1 place cell information and hippocampal network coordination in a novel rat model of FXS. A. ASIMINAS; E. ALLISON; E. R. WOOD; P. C. KIND*. *The Univ. of Edinburgh, Univ. of Edinburgh, Edinburgh Univ.*

2:30 **352.07** Mechanisms of atypical sensory information processing within the somatosensory cortex of an autism mouse model. A. A. FRICK*; A. A. BHASKARAN; G. BONY; K. LE CORF; R. PROVILLE. *Neurocentre Magendie, Neurocentre Magendie.*

2:45 **352.08** Visual recognition memory as a translational biomarker of genetically defined autism spectrum disorders. P. S. B. FINNIE*; L. J. PIERCE; E. S. KAPLAN; M. LEE; S. F. COOKE; C. A. NELSON; M. F. BEAR. *MIT, Harvard Med. Sch., Seattle Children's Res. Inst., Wellesley Col., King's Col. London, Harvard Med. Sch.*

3:00 **352.09** Critical period plasticity in fragile X syndrome. M. M. HUNTSMAN*; M. N. SVALINA; C. A. CEA-DEL RIO; A. F. NUNEZ-PARRA; D. RESTREPO. *Univ. of Colorado at Denver - Anschutz Med. Campus, Univ. of Colorado, Univ. de Santiago de Chile, Univ. Autonoma De Chile, Univ. of Colorado Anschutz Med. Campus.*

3:15 **352.10** E-I ratio and circuit homeostasis in mouse models of autism. D. E. FELDMAN*; M. W. ANTOINE; T. LANGBERG; P. SCHNEPEL. *UC Berkeley.*

NANOSYMPOSIUM

353. Evolution and Development of Brain and Spinal Cord

Theme A – Development

Mon. 1:00 PM – *McCormick Place, S104*

1:00 **353.01** Variation and novelty in evolution: Novel genes continuously arise from non-coding regions, enable protein structural innovation and function in the brain. V. LURIA*; A. KARGER; J. W. CAIN; A. O'DONNELL-LURIA; M. KIRSCHNER. *Harvard Med. Sch., Harvard Med. Sch., Harvard Univ., Broad Inst. of MIT and Harvard.*

1:15 **353.02** Melanin-concentrating hormone peptidergic system comparative morphology between muroid species. G. B. DINIZ*; D. S. BATTAGELLO; P. M. CHERUBINI; J. D. REYES-MENDOZA; C. LUNA-ILLADES; M. O. KLEIN; L. C. MOTTA-TEIXEIRA; L. V. SITA; M. MIRANDA-ANAYA; T. MORALES; J. C. BITTENCOURT. *Inst. of Biomed. Sci., Univ. of São Paulo, Inst. de Neurobiología, Univ. Nacional Autónoma de México, Inst. of Biomed. Sciences, Univ. of São Paulo, Facultad De Ciencias, UNAM.*

1:30 **353.03** Cortical interlaminar astrocytes in mammalian evolution and development. C. FALCONE*; M. WOLF-OCHOA; S. AMINA; T. HONG; G. VAKILZADEH; W. D. HOPKINS; P. R. HOF; C. SHERWOOD; P. R. MANGER; S. C. NOCTOR; V. MARTÍNEZ CERDEÑO. *Univ. of California, Davis, Univ. of California-Davis, Univ. of California, Davis, UC Davis, Univ. of California, Davis, Georgia State Univ., Icahn Sch. of Med. At Mount Sinai, George Washington Univ., Univ. of the Witwatersrand, UC Davis.*

1:45 **353.04** Subplate neurons function as an organizer in neocortical development. C. OHTAKA-MARUYAMA*; N. KANEKO; A. FUJII; K. YURA; S. KURAHASHI. *Tokyo Metropolitan Inst. of Med. Sci., Ochanomizu Univ., Univ. of Tsukuba.*

2:00 **353.05** Modelling the interaction of genetic and activity-dependent factors that shape the developing neocortex. S. S. JAMES*; S. P. WILSON. *The Univ. of Sheffield.*

2:15 **353.06** A multi-scale surface-preserving analysis of cortical morphology in a single cortex: Universality in the transition from fractal to lissencephalic. B. MOTA*; Y. WANG. *Univ. Federal do Rio De Janeiro, Sch. of Computing Sci.*

2:30 **353.07** Central canal formation and wiring of spinal circuit for left-right limb alternation depends on afadin function. S. SKARLATOU*; E. TOSCANO; C. MENDES; J. BOUVIER; N. ZAMPIERI. *Max-Delbrück-Center For Mol. Med., Charité - Universitätsmedizin, Cluster of Excellence NeuroCure, Max-Delbrück-Center for Mol. Med., CEDOC, CNRS.*

• Indicated a real or perceived conflict of interest, see page 150 for details.
▲ Indicates a high school or undergraduate student presenter.
* Indicates abstract's submitting author

NANOSYMPOSIUM

354. Amyloid-Beta: Novel Insights Into Function, Toxicity, and Animal Models

Theme C – Neurodegenerative Disorders and Injury

Mon. 1:00 PM – *McCormick Place, S103*

1:00 **354.01** The role of α7 and α7β2-containing nicotinic acetylcholine receptors (nAChRs) in mediating amyloid-beta induced basal forebrain cholinergic hyperexcitation and integration of spatial reference and working memory. A. A. GEORGE*; C. XAVIER-JACKSON; J. M. VIEIRA; M. T. GEE; H. A. BIMONTE-NELSON; R. J. LUKAS; P. WHITEAKER. *The Barrow Neurolog. Inst., Univ. of Bath, Arizona State Univ., Univ. of Arizona, Barrow Neurol Inst., The Barrow Neurolog. Inst.*

1:15 **354.02** Dissecting amyloid β physiological function at the synapse. W. GULISANO*; M. MELONE; C. RIPOLI; M. TROPEA; D. D. LI PUMA; S. GIUNTA; S. COCCO; D. MARCOTULLI; N. ORIGLIA; A. PALMERI; F. CONTI; C. GRASSI; D. PUZZO. *Univ. of Catania, Univ. Politecnica Delle Marche, IRCCS INRCA, Univ. Cattolica Sch. of Med., Fondazione Policlinico Universitario A. Gemelli IRCCS, CNR- Neurosci. Inst., Oasi Res. Institute-IRCCS.*

1:30 **354.03** Examining the role of n-terminal abeta fragments in mitigating full-length abeta-induced phenotypic alterations in primary astrocytes and microglia. M. J. LANTZ*; R. A. NICHOLS. *Univ. of Hawaii.*

1:45 **354.04** Microtubule dynamics at synaptic contacts are modulated by neuronal activity and affected by oligomeric Ab_{1-42}. X. QU; A. KUMAR; H. BLOCKUS; C. WAITES; F. BARTOLINI*. *Columbia Univ., Columbia Univ.*

2:00 **354.05** ● The effect of a calcium channel modulator on β-secretase elevation in Alzheimer's disease. K. R. SADLEIR*; J. POPOVIC; A. SOMASUNDARAM; H. DO; C. T. REIDL; W. ZHU; M. PRAKRIYA; R. B. SILVERMAN; R. VASSAR. *Feinberg Sch. of Medicine, Northwestern Univ., Feinberg Sch. of Medicine, Northwestern Univ., Chem. of Life Processes Institute, Northwestern Univ.*

2:15 **354.06** Amyloid precursor protein phosphorylation at distinct residues regulates homeostatic synaptic plasticity. S. N. GARCIA DUBAR*; D. T. PAK; S. VICINI. *Georgetown Univ., Georgetown Univ. Med. Ctr.*

2:30 **354.07** Amyloid-β-dependent impairment of adult hippocampal neurogenesis in a mouse model of recurrent herpes simplex virus type-1 infection. R. PIACENTINI*; D. D. LI PUMA; L. LEONE; K. GIRONI; M. E. MARCOCCI; G. DE CHIARA; A. T. PALAMARA; C. GRASSI. *Univ. Cattolica del Sacro Cuore, Fondazione Policlinico Universitario A. Gemelli IRCCS, Sapienza Univ. of Rome, Natl. Res. Council, San Raffaele Pisana, IRCCS, Telematic Univ.*

2:45 **354.08** A mouse model of recurrent herpes simplex virus type-1 infections exhibits synaptic dysfunction and memory impairment reminiscent of Alzheimer's disease phenotype. D. D. LI PUMA*; R. PIACENTINI; S. COCCO; M. RINAUDO; G. DE CHIARA; A. T. PALAMARA; C. GRASSI. *Univ. Cattolica del Sacro Cuore, Fondazione Policlinico Universitario A. Gemelli IRCCS, Natl. Res. Council, Sapienza Univ. of Rome, San Raffaele Pisana, IRCCS, Telematic Univ.*

3:00 **354.09** Glucocorticoid receptor modulation alters dendritic spine density and microglia activity in an animal model of Alzheimer's disease. M. PEDRAZZOLI*; M. LOSURDO; G. PAOLONE; M. MEDELIN; L. JAUPAJ; B. CISTERNA; A. SLANZI; M. MALATESTA; S. COCO; M. BUFFELLI. *Univ. of Verona, Univ. of Milano Bicocca, Univ. of Verona, Univ. of Verona.*

3:15 **354.10** ● Fluoxetine and Vortioxetine reverse depressive-like phenotype and memory deficits induced by $A\beta_{-42}$ oligomers in mice: A key role of transforming growth factor-β1. S. A. TORRISI; F. GERACI; M. TROPEA; M. GRASSO; G. CARUSO; A. FIDILIO; N. MUSSO; G. SANFILIPPO; F. TASCEDDA; A. PALMERI; S. SALOMONE; F. DRAGO; D. PUZZO; G. LEGGIO; F. CARACI*. *Univ. of Catania, Oasi Res. Inst. - IRCCS, Univ. of Catania Dept. of Drug Sci., Univ. of Modena and Reggio Emilia, Univ. of Catania Dept. of Biomed. and Biotechnological Sci., Univ. of Catania.*

3:30 **354.11** *In vivo* mitochondrial oxidative stress in a mouse model of Alzheimer's disease. M. CALVO RODRIGUEZ*; A. C. SNYDER; S. S. HOU; F. ZHANYUN; B. J. BACSKAI. *Mass. Gen. Hosp. and Harvard Med. Sch.*

3:45 **354.12** Cyclic-AMP prevents beta-amyloid internalization via 67kDa laminin receptor and causes signaling for neuroprotection against beta-amyloid toxicity. R. GOPALAKRISHNA*; C. LIN; S. YANG; C. LE; M. S. KINDY; N. R. BHAT. *USC Keck Sch. of Med., Univ. of South Florida, Med. Univ. of South Carolina.*

4:00 **354.13** Histone acetyltransferase Tip60 mediated rescue in amyloid-β-induced Alzheimer's disease neuropathology. H. ZHANG*; B. KARISETTY; S. MORTAZAVI; S. MANDLOI; S. PERVEZ; F. ELEFANT. *Drexel Univ.*

4:15 **354.14** Developing mouse models to study late-onset Alzheimer's disease. D. BAGLIETTO-VARGAS*; L. CAI; M. T. NGUYEN; K. D. HUYNH; A. C. MARTINI; L. TRUJILLO-ESTRADA; C. A. SOTO; I. MORENO-GONZALEZ; S. VIVEK; F. M. LAFERLA; &. MODEL-AD CONSORTIUM. *Univ. of California, Irvine, The Univ. of Texas Hlth. Sci. Center- Houston Med. Sch., The Mitchell Ctr. for Alzheimer's Dis. and Related Brain Disorders.*

NANOSYMPOSIUM

355. Imaging and Treatment Studies of Essential Tremor and Dementia

Theme C – Neurodegenerative Disorders and Injury

Mon. 1:00 PM – *McCormick Place, S106*

1:00 **355.01** Quantitative separation of tremor and ataxia in essential tremor. A. CASAMENTO MORAN*; B. YACOUBI; B. WILKES; A. WAGLE SHUKLA; K. D. FOOTE; M. S. OKUN; D. E. VAILLANCOURT; E. A. CHRISTOU. *Univ. of Florida, Univ. of Florida.*

1:15 **355.02** Dysmetria exacerbates motor disability in essential tremor patients. B. YACOUBI; A. CASAMENTO MORAN; K. D. FOOTE; M. S. OKUN; D. E. VAILLANCOURT@UFL.EDU; E. A. CHRISTOU*. *Univ. of Florida.*

1:30 **355.03** Dysmetria contributes to gait and balance impairments in essential tremor patients. Y. CHOI*; A. CASAMENTO-MORAN; S. DELMAS; S. BRACKSIECK; B. YACOUBI; M. OKUN; D. VAILLANCOURT; E. CHRISTOU. *Univ. of Florida.*

- ● Indicated a real or perceived conflict of interest, see page 150 for details.
- ▲ Indicates a high school or undergraduate student presenter.
- * Indicates abstract's submitting author

1:45 **355.04** Biomarkers of FXTAS progression in fragile X premutation carriers: Insights from longitudinal neuroimaging. S. M. RIVERA*; E. FOURIE; J. WANG; D. R. HESSL. *Univ. California, Davis, Univ. of California Davis, Univ. of California, Davis, Univ. of California, Davis.*

2:00 **355.05** Increased cerebrospinal fluid levels of neuroinflammatory markers at an early stage of Alzheimer's disease. M. INGELSSON*; G. BOSTRÖM; J. VIRHAMMAR; E. FREYHULT; D. ALCOLEA; H. TUMANI; M. OTTO; L. KILANDER; M. LÖWENMARK; V. GIEDRAITIS; D. SEHLIN; S. SYVÄNEN; A. LLEÓ; C. A. F. VON ARNIM; K. KULTIMA. *Uppsala Univ. / Geriatrics, Uppsala Univ. / Neurol., Uppsala Univ. / Med. Sci., Hosp. de la Santa Creu i Sant Pau / Neurol., Ulm Univ. / Neurol.*

2:15 **355.06** Seeing beyond the eye: Neuroinflammatory processes and protein aggregation in the retina of AD patients, possible biomarkers for early diagnosis. A. GRIMALDI; N. PEDICONI; M. ROSITO; F. OIENI; R. PIZZARELLI; M. GIUBETTINI; S. DI ANGELANTONIO*. *Inst. Italiano Di Tecnologia - Clns@Sapienza, Inst. Italiano Di Tecnologia, Sapienza Univ. di Roma, CrestOptics.*

2:30 **355.07** ^{18}F-AV-1451 and ^{11}C-PBR28 inflammation positron emission tomography signal in semantic dementia. B. PASCUAL*; P. ZANOTTI-FREGONARA; Q. FUNK; N. PAL; E. ROCKERS; M. YU; G. C. ROMAN; P. E. SCHULZ; J. C. MASDEU. *Houston Methodist, The McGovern Med. Sch. of UTHealth.*

NANOSYMPOSIUM

356. Mechanisms of Motor Neuron Disease

Theme C – Neurodegenerative Disorders and Injury

Mon. 1:00 PM – *McCormick Place, N426*

1:00 **356.01** Mesenchymal stem cells and neural precursors derived from induced pluripotent cells preserve perineuronal nets and stimulate neural plasticity in ALS rats. E. M. SYKOVA*; S. FOROSTYAK; J. C. KWOK; N. ROMANYUK; M. REHOROVA; R. RAHA-CHOWDHURY; P. JENDELOVA; J. W. FAWCETT. *Inst. of Neuroimmunology SAV, Scimed Biotechnologies, Inst. of Exptl. Med. CAS, Univ. of Leeds, John van Geest Ctr. for Brain Repair, Cambridge Univ., Inst. of Exptl. Med. CAS, Cambridge Univ.*

1:15 **356.02** Analysis of molecular pathways involved in health of Alsin deficient corticospinal motor neurons. M. GAUTAM*; L. A. LABOISSONNIERE; M. KANDPAL; Y. BI; J. M. TRIMARCHI; R. V. DAVULURI; Y. A. GOO; P. H. ÖZDINLER. *Northwestern Univ., Iowa State Univ., Northwestern Univ., Iowa State Univ., Northwestern Univ.*

1:30 **356.03** Glycolysis upregulation is neuroprotective as a compensatory mechanism in ALS. E. MANZO; I. LORENZINI; D. BARRAMEDA; J. BARROWS; T. KOVALIK; R. BOWSER; R. G. SATTLER; D. C. ZARNESCU*. *Univ. of Arizona, Barrow Neurolog. Inst., Barrow Neurolog. Inst., Barrow Neurolog. Inst.*

1:45 **356.04** A systems-level approach to investigate disease-associated metabolic dysfunction in ALS. N. M. CONNOLLY*; O. WATTERS; I. LLORENTE-FOLCH; I. FERNANDEZ-PEREZ; M. SALVUCCI; A. MATVEEVA; D. BANO; J. H. PREHN. *Royal Col. of Surgeons in Ireland, Royal Col. of Surgeons in Ireland, German Ctr. for Neurodegenerative Dis. (DZNE).*

2:00 **356.05** Genome wide analysis reveals heparin sulfate epimerase modulates TDP-43 proteinopathy. N. LIACKHO; A. SAXTON; B. C. KRAEMER*. *Veterans Affairs Puget Sound Hlth. Care Syst., VAPSHCS.*

2:15 **356.06** Delayed transgene expression in a mouse model of ALS and FTLD-TDP demonstrates robust disease phenotype. G. CHAN*; A. VAN HUMMEL; J. J. VAN DER HOVEN; L. M. ITTNER; Y. D. KE. *Macquarie Univ.*

2:30 **356.07** Resolving the intersection among spinal motor neuron aging and amyotrophic lateral sclerosis in the SOD1G93A mouse model using single nuclei RNA-seq. R. HO*; P. MATHKAR; D. OHEB; R. ELDER; M. J. WORKMAN; C. N. SVENDSEN. *Cedars-Sinai Med. Ctr.*

2:45 **356.08** VAPB mutation associated with ALS leads to increase in mRNA translation and motor neuron demise in patient derived cells. H. C. MIRANDA*; R. HERAI; M. MITNE-NETO; G. WONG; J. MORESCO; J. OKUBO; J. R. YATES, III; M. ZATZ; A. R. MUOTRI. *Case Western Reserve Univ., Pontificia Univ. Catolica do Parana, Grupo Fleury, UCSD, The Scripps Res. Inst., The Scripps Res. Inst. - Grad. Program, Univ. de Sao Paulo, UCSD.*

NANOSYMPOSIUM

357. Pain Imaging and Perception

Theme D – Sensory Systems

Mon. 1:00 PM – *McCormick Place, S403*

1:00 **357.01** Pain hypersensitivity and enhanced olfactory performance is associated with brain plasticity in the blind mouse. S. TOUJ*; R. TOKUNAGA; S. AL AIN; D. R. GALLINO; M. CHAKRAVARTY; G. BRONCHTI; M. PICHE. *Univ. du Québec à Trois-rivières, Douglas Mental Hlth. Univ. Inst., Douglas Mental Hlth. Univ. Inst.*

1:15 **357.02** Pain related activity in the somatosensory cortex and the medial prefrontal cortex of adult awake male rats is altered by early life pain experience. P. CHANG; R. ALIWALAS; S. BEGGS; M. FITZGERALD*. *Univ. Col. London.*

1:30 **357.03** The structure and function of the nucleus accumbens in subacute and chronic low back pain. P. Y. GEHA*; M. M. MAKARY*; P. POLOSECKI; I. E. DE ARAUJO; D. S. BARRON; R. T. CONSTABLE; G. A. CECCHI; D. M. SMALL. *Yale Univ. Sch. of Medicine, Dept. of Psychiatry, Yale Univ. Sch. of Medicine, Dept. of Psychiatry, The Rockefeller Univ., The J. B. Pierce Lab. and Yale Univ. Sch. of Med., Yale Univ., Yale Univ., IBM Res., Yale Univ.*

1:45 **357.04** Whole-brain functional network disruption in chronic pain with disc herniation. S. HUANG; K. WAKAIZUMI; B. WU; B. SHEN; B. WU; L. FAN; M. N. BALIKI; G. ZHAN; A. V. APKARIAN; L. HUANG*. *The Second Affiliated Hosp. and Yuying Children's Hosp. of Wenzhou Med. Univ., Northwestern Univ., Shirley Ryan AbilityLab.*

2:00 **357.05** Cortical thickness-guided prediction of long-term pain relief following gamma knife radiosurgery for trigeminal neuralgia. P. S. HUNG*; J. Y. ZHANG; A. NOORANI; M. HODAIE. *Univ. of Toronto, Krembil Res. Inst.*

• Indicated a real or perceived conflict of interest, see page 150 for details.
▲ Indicates a high school or undergraduate student presenter.
* Indicates abstract's submitting author

2:15 **357.06** Striatal hypofunction as a neural correlate of mood alterations in chronic pain patients. M. KIM; I. A. MAWLA; D. S. ALBRECHT; R. ADMON; A. TORRADO-CARVAJAL; C. BERGAN; E. PROTSENKO; P. KUMAR; R. EDWARDS; A. SAHA; V. NAPADOW; D. A. PIZZAGALLI; M. L. LOGGIA*. *Massachusetts Gen. Hosp., Univ. of Michigan Med. Sch., Martinos Center, MGH, Harvard Med. Sch., Univ. of Haifa, Massachusetts Gen. Hospital, Harvard Med. Sch., McLean Hosp., Brigham and Women's Hospital, Harvard Med. Sch., Massachusetts Gen. Hosp., Massachusetts Gen. Hosp. / Harvard Med. Sch.*

2:30 **357.07** Lesional trigeminal neuralgia: A new subtype of trigeminal neuralgia attributed to a single brainstem lesion. S. TOHYAMA*; P. S. P. HUNG; J. C. CHENG; J. Y. ZHANG; M. HODAIE. *Univ. of Toronto, Krembil Res. Inst., Stony Brook Univ. Sch. of Med.*

2:45 **357.08** Does abnormal alpha, beta, and gamma band power represent a general marker of neuropathic pain? K. D. DAVIS*; L. B. KISLER; J. A. KIM; K. S. HEMINGTON; A. ROGACHOV; R. L. BOSMA; N. R. OSBORNE; R. D. INMAN. *Krembil Res. Inst, Univ. Hlth. Network, Univ. of Toronto.*

NANOSYMPOSIUM

358. Tactile Coding in the Cortex

Theme D – Sensory Systems

Mon. 1:00 PM – *McCormick Place, S401*

1:00 **358.01** Neuronal coding for a sudden change of stimulation frequency in the barrel cortex of mice. A. PARABUCKI*; Y. ORAN; M. SOKOLETSKY; Y. A. KATZ; I. LAMPL. *Weizmann Inst. of Sci.*

1:15 **358.02** Optical measurement and perturbation of global cortical processing for context-dependent behavior. K. TAMURA*; V. ESMAEILI; S. CROCHET; C. C. PETERSEN. *Ecole Polytechnique Federale de Lausanne (EPFL).*

1:30 **358.03** Modulating the amplitude of intracortical microstimulation reveals distinct recruitment mechanisms of local and distant neurons as seen by *in vivo* two-photon microscopy. T. D. KOZAI; J. R. ELES. *Univ. of Pittsburgh, Univ. of Pittsburgh.*

1:45 **358.04** The perceptual correlate of ICMS frequency varies across somatosensory cortex. T. CALLIER; N. BRANTLY*; S. BENSMAIA. *Univ. of Chicago.*

2:00 **358.05** Is this good silk or cheap silk? High level representations of texture in lateral parietal cortex. K. H. LONG*; S. J. BENSMAIA. *Univ. of Chicago, Univ. of Chicago.*

2:15 **358.06** Both spatial and temporal patterns of sensory afferents activity may explain the geometric perception in the fishbone tactile illusion. M. NAKATANI*; M. UESAKA; S. MOGAMI; Z. ZHAO; T. SUSHIDA; H. KITAHATA; M. NAGAYAMA. *Keio Univ., Hokkaido Univ., Chiba Univ.*

2:30 **358.07** Correlation between the spatial-temporal parameters and tactile speed perception. B. QU*; M. XIN; T. SHEN; B. ZHANG; H. LAI. *Key Lab. for Biomed. Engin. of Ministry of Educ., Interdisciplinary Inst. of Neurosci. and Technol., Dept. of Neurol. of the Second Affiliated Hosp., Key Lab. of Med. Neurobio. of Zhejiang Province.*

2:45 **358.08** ● Neuronal oscillatory activity and temporal perception in the tactile domain - Alterations in hepatic encephalopathy. T. J. BAUMGARTEN*; M. LAZAR; N. FÜLLENBACH; M. S. JÖRDENS; D. HÄUSSINGER; A. SCHNITZLER; J. LANGE. *New York Univ. Langone Med. Ctr., Heinrich Heine Univ. Düsseldorf, Heinrich Heine Univ. Düsseldorf.*

3:00 **358.09** Multiplexing intensity and frequency information using temporal pattern encoding of peripheral afferent nerve stimulation. K. K. W. NG*; I. N. SNOW; I. BIRZNIEKS; R. M. VICKERY. *UNSW Sydney, Neurosci. Res. Australia.*

3:15 **358.10** Active movements from the fingers are required to consciously perceive surface friction during object manipulation. N. AFZAL*; H. KHAMIS; E. STUBBS; M. WIERTLEWSKI; S. J. REDMOND; R. M. VICKERY; I. BIRZNIEKS. *UNSW Sydney, Neurosci. Res. Australia, UNSW Sydney, Delft Univ. of Technol., Univ. Col. Dublin.*

3:30 **358.11** ● Tactile emojis and the language of social touch. S. MCINTYRE*; R. BOEHME; S. C. HAUSER; A. KUSZTOR; A. MOUNGOU; G. NOVEMBRE; G. J. GERLING; P. M. ISAGER; A. ISRAR; S. S. NAGI; F. ABNOUSI; E. A. LUMPKIN; M. BJORNSDOTTER; H. OLAUSSON. *Linkoping Univ., Uva, Linkoping Univ., Linkoeping Univ., Univ. Of Virginia, Eindhoven Univ. of Technol., Facebook Reality Labs, USA, Columbia Univ. Physicians & Surgeons.*

NANOSYMPOSIUM

359. Subcortical Circuitry in Reward, Motivation, and Aversion

Theme G – Motivation and Emotion

Mon. 1:00 PM – *McCormick Place, S505*

1:00 **359.01** Topographically segregated signals in the amygdala mediate the integration of hedonic values into food choices. L. J. TIEDEMANN; A. ALINK; J. BECK; C. BUECHEL; S. BRASSEN*. *Univ. Med. Ctr. Hamburg-Eppendorf, Univ. Med. Ctr. Hamburg-Eppendorf.*

1:15 **359.02** Tonic excitation in lateral habenula promotes adaptive termination of goal pursuit and threat avoidance. B. J. SLEEZER*; R. J. POST; D. A. BULKIN; V. LEE; M. R. WARDEN. *Cornell Univ.*

1:30 **359.03** Role of different laterodorsal tegmentum to nucleus accumbens inputs in reward. B. COIMBRA*; C. SOARES-CUNHA; A. V. DOMINGUES; S. BORGES; N. A. P. VASCONCELOS; N. SOUSA; A. J. RODRIGUES. *Univ. of Minho (ICVS), ICVS/3B's–PT Government Associate Lab., Clin. Academic Ctr. (2CA-Braga).*

1:45 **359.04** Midbrain dopamine neurons contribute to spatial working memory during the delay period. J. CHOI*; H. JANG; S. ORNELAS; J. AU; I. B. WITTEN. *Princeton Univ., Princeton Univ., Princeton Univ.*

2:00 **359.05** Medial and lateral VTA DA neurons have distinct temporal control during fear extinction. L. X. CAI*; K. PIZANO; G. GUNDERSEN; C. HAYES; W. T. FLEMING; S. HOLT; H. WANG; I. B. WITTEN. *Princeton Neurosci. Inst., Princeton Univ.*

2:15 **359.06** Local and global consequences of reward-evoked striatal dopamine release. N. LI*; A. JASANOFF. *MIT.*

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▲ Indicates a high school or undergraduate student presenter.
* Indicates abstract's submitting author

2:30 **359.07** Understanding the molecular basis of nicotine addiction by integrative functional genomic analyses in a rat model and hiPSC-derived DA neurons. A. KOZLOVA*; R. R. BUTLER, III; S. ZHANG; T. UJAS; M. STREIT; H. ZHANG; A. R. SANDERS; Z. PANG; S. STEIDL; P. V. GEJMAN; P. VEZINA; J. DUAN. *Northshore Univ. Healthsystem, Univ. of Chicago, Rutgers Univ., Loyola Univ. Chicago.*

2:45 **359.08** Can neuromodulatory neural circuits be degenerate? A theoretical investigation of serotonin-dopamine interaction in conditioning tasks. C. K. BEHERA; A. JOSHI; D. WANG; T. SHARP; K. WONG-LIN*. *Ulster Univ., Beijing Normal Univ., Univ. of Oxford.*

3:00 **359.09** Plasticity of glutamatergic inputs onto medium spiny neurons during polypharmacy cross-sensitization. D. AMATO*; A. KRUYER; J. PARRILLA-CARRERO; E. DERESCHEWITZ; P. W. KALIVAS. *Med. Univ. of South Carolina.*

NANOSYMPOSIUM

360. Learning and Memory: Cortical-Hippocampal Interactions

Theme H – Cognition

Mon. 1:00 PM – *McCormick Place, N427*

1:00 **360.01** Complementary task structure representations in the hippocampus and orbitofrontal cortex during performance of an odor sequence task. J. ZHOU*; M. MONTESINOS-CARTAGENA; A. WIKENHEISER; M. GARDNER; Y. NIV; G. SCHOENBAUM. *Natl. Inst. on Drug Abuse, IRP, Princeton Univ.*

1:15 **360.02** Emergence and elimination of hippocampal odor/time-cell sequences and their link to working-memory. J. TAXIDIS*; E. PNEVMATIKAKIS; A. L. MYLAVARAPU; J. S. ARORA; P. GOLSHANI. *UCLA, Flatiron Institute, Simons Fndn.*

1:30 **360.03** The evolution of hippocampal formation subregions in primates. D. VANIER*; C. SHERWOOD; J. SMAERS. *Stony Brook Univ., George Washington Univ., Stony Brook Univ.*

1:45 **360.04** During remote recall anterior cingulate cortex theta improves hippocampal contextual processing. R. A. WIRT*; J. M. HYMAN. *Univ. of Nevada Las Vegas.*

2:00 **360.05** Stress-sensitive cortisol awakening response optimizes hippocampal and prefrontal circuitry to support emotion memory suppression. C. BIAN*; W. LIN; L. ZHUANG; B. XIONG; S. QIN. *Beijing Normal Univ., Beijing Normal Univ., Beijing Normal Univ.*

2:15 **360.06** Stress-sensitive cortisol awakening response proactively augments hippocampal-prefrontal functional organization in humans. B. XIONG*; C. CHEN; Y. TIAN; S. ZHANG; C. LIU; J. WU; S. QIN. *Beijing Normal Univ., Beijing Normal Univ., Beijing Normal Univ., Xinyang Normal Univ., Capital Med. Univ., Capital Med. Univ., Shenzhen Univ.*

2:30 **360.07** Thalamus-hippocampal direct pathway regulates sex-differences in memory consolidation. G. TORROMINO*; V. LOFFREDO; F. ESPOSITO; M. COLUCCI; M. DE RISI; M. GIOFFRÈ; E. DE LEONIBUS. *IBCN-CNR Inst. of Cell. Biol. and Neurobio., TIGEM - Telethon Inst. of Genet. and Med., Sapienza Univ. of Rome, IGB-CNR Inst. of Genet. and Biophysics, IMM-CNR Inst. of Microelectronic and Microsystems.*

NANOSYMPOSIUM

361. Decision Making

Theme H – Cognition

Mon. 1:00 PM – *McCormick Place, S404*

1:00 **361.01** Agency affects the emotional outcome and the neural correlates of social decisions. M. GÄDEKE; T. WILLEMS; O. SALAH; B. WEBER; R. HURLEMANN; J. W. SCHULTZ*. *Univ. of Bonn, Univ. of Bonn, Univ. of Bonn, Univ. Clin. Bonn.*

1:15 **361.02** Multivariate neural representations of multiple decision uncertainties in human anterior cingulate cortex. W. JIA; J. SU*; X. WAN. *Beijing Normal Univ., IDG/McGovern Inst. for Brain Res. at BNU.*

1:30 **361.03** Hexadirectional coding in human entorhinal cortex represents the trajectory through social networks during decision-making. S. A. PARK*; D. S. MILLER; E. D. BOORMAN. *Univ. of California, Davis.*

1:45 **361.04** The role of frontal dopamine in risky decision-making in gambling addiction. J. PETERS*; T. A. VEGA; D. WEINSTEIN; J. MITCHELL; A. S. KAYSER. *Dept. of Psychology, Biol. Psychology, Taylor.vega@gmail.Com, Dept. of Psychiatry, UCSF, UCSF: Dept. of Neurol., Univ. of California San Francisco.*

2:00 **361.05** Polarity of subjective uncertainty in ventromedial prefrontal cortex changes with behavioural adaptation. N. TRUDEL*; M. K. WITTMANN; J. SCHOLL; M. KLEIN-FLÜGGE; E. FOURAGNAN; M. F. S. RUSHWORTH. *Oxford Univ., Plymouth Univ.*

2:15 **361.06** Conservative and hasty decision styles are differently associated with static and dynamic functional connectivity in healthy and schizophrenia people. J. MIYATA*; A. SASAMOTO; T. EZAKI; N. MASUDA; Y. MORI; M. ISOBE; T. ASO; T. MURAI; H. TAKAHASHI. *Kyoto Univ., The Univ. of Tokyo, JST, Univ. of Bristol, Tokyo Med. and Dent. Univ.*

2:30 **361.07** Uncovering the neural underpinnings of semantic similarity judgments. M. IORDAN*; C. ELLIS; D. N. OSHERSON; J. D. COHEN. *Princeton Univ., Yale Univ., Princeton Univ.*

2:45 **361.08** Associative retrieval modulates causal attributions in retrospective revaluation. S. O'BRYAN*; E. J. LIVESEY; D. A. WORTHY; T. DAVIS. *Texas Tech. Univ., Univ. of Sydney, Texas A&M Univ.*

3:00 **361.09** A macroscopic gradient of value and choice representations in a large-scale model of the multi-regional mammalian cortex. U. PEREIRA*; X. WANG. *New York Univ.*

3:15 **361.10** Daily practice of heart rate variability biofeedback training affects brain activity during social decision making. P. NASSERI; K. NASHIRO; H. YOO; M. JUNGWON; C. CHO; S. BACHMAN; P. LEHRER; J. F. THAYER; C. CHANG; T. FENG; S. NARAYANAN; M. MATHER*. *USC, USC, USC, Rutgers Univ., Univ. of California Irvine, Vanderbilt Univ., USC.*

3:30 **361.11** ● The effects of dopaminergic psychostimulants on complex problem solving. E. A. BOWMAN*; D. R. COGHILL; C. MURAWSKI; P. L. BOSSAERTS. *The Univ. of Melbourne, The Univ. of Melbourne.*

3:45 **361.12** Rule adherence increases the efficiency of decision-making. B. EBITZ*; J. TU; B. Y. HAYDEN. *Univ. of Minnesota, Univ. of Minnesota Twin Cities.*

● Indicated a real or perceived conflict of interest, see page 150 for details.
▲ Indicates a high school or undergraduate student presenter.
* Indicates abstract's submitting author

4:00 **361.13** Neural dynamics underlying the integration of reward and efficacy during evaluation and motivation of cognitive control. R. FRÖMER*; H. LIN; C. K. DEAN WOLF; M. INZLICHT; A. SHENHAV. *Brown Univ., Univ. of Toronto.*

NANOSYMPOSIUM

362. Data Analysis: Neuronal Networks

Theme I – Techniques

Mon. 1:00 PM – *McCormick Place, S402*

1:00 **362.01** How anti-learning affects chance levels of population decoding accuracy. E. M. MEYERS*. *Hampshire Col.*

1:15 **362.02** Vak: An open-source software library for high-throughput, automated segmentation and annotation of vocalizations with neural networks. D. A. NICHOLSON*; Y. COHEN. *Emory Univ., Boston Univ.*

1:30 **362.03** Multi-object optimization on structural and functional community structures. S. GU*; K. LI. *Univ. of Electro. Sci. and Technol. of China.*

1:45 **362.04** Quantifying information transmitted by large neural populations. J. BERKOWITZ; T. O. SHARPEE*. *Salk Inst. for Biol. Studies, Salk Inst. for Biol. Studies.*

2:00 **362.05** Temporal neural connectivity dynamics with TMS-EEG in schizophrenia. D. GUPTA*; X. DU; E. HONG; F. CHOA. *Univ. of Maryland Baltimore County, Maryland Psychiatric Res. Ctr., Maryland Psychiatric Res. Ctr., UMBC.*

2:15 **362.06** Chronic intranasal oxytocin administration in older men enhances right TPJ functional MRI connectivity during social perception. P. A. VALDES-HERNANDEZ*; M. HORTA; I. FRAZIER; E. PORGES; R. POLK; E. PEREZ; M. OJEDA; Y. CRUZ-ALMEIDA; J. P. MORRIS; D. FEIFEL; N. EBNER. *Univ. of Florida, Univ. of Virginia, Univ. of California.*

POSTER

363. Axon Regeneration

Theme A – Development

Mon. 1:00 PM – *McCormick Place, Hall A*

1:00 A1 **363.01** Characterizing retinal regeneration in a genetic mouse model of glaucoma. J. R. PARIS*; N. C. SKLAR; C. L. LINN. *Western Michigan Univ., Homer Stryker MD Sch. of Med.*

2:00 A2 **363.02** New neurons migrate through the glial meshwork using Slit1 to approach the lesion for functional recovery. N. KANEKO*; V. HERRANZ-PÉREZ; T. OTSUKA; H. SANO; N. ONO; T. OMATA; H. NGUYEN; T. THAI; A. NAMBU; Y. KAWAGUCHI; J. GARCÍA-VERDUGO; K. SAWAMOTO. *Nagoya City Univ. Grad. Sch. of Med. Sci., Inst. Cavanilles, Univ. de Valencia, CIBERNED, Natl. Inst. Physiol Sci., Natl. Inst. Physiol Sci., Jichi Med. University, Sch. of Med., Natl. Inst. for Physiological Sci., Natl. Inst. for Physiological Sci.*

3:00 A3 **363.03** Endocannabinoid signalling during axolotl spinal cord regeneration. M. TOLENTINO; M. MORNEAULT; G. SPENCER; R. L. CARLONE*. *Brock Univ.*

4:00 A4 **363.04** Glia-like cells from human adult stem cells protect against ischemic stroke through IGFBP-4. J. SON; J. PARK; Y. KIM; J. HA; D. PARK; S. KOH; M. CHANG*. *Hanyang Univ. Col. of Med., Seoul Natl. Univ.*

1:00 A5 **363.05** Single cell transcriptional profiling of the corticospinal tract. N. GOLAN*; K. P. LUTTIK; W. B. CAFFERTY. *Yale Univ., Yale Univ.*

2:00 A6 **363.06** Sequential generation of neuronal cell types in the regenerating adult zebrafish retina. M. LAHNE*; D. R. HYDE. *Univ. of Notre Dame.*

3:00 A7 **363.07** Application of an alpha7 nicotinic acetylcholine receptor agonist in the adult mammalian retina causes retinal pigment epithelium mediated neurogenesis and regeneration in a murine glaucoma model. S. E. WEBSTER*; N. C. SKLAR; M. K. WEBSTER; D. M. LINN, Jr; C. L. LINN. *Western Michigan Univ., Western Michigan Univ. Homer Stryker MD Sch. of Med., Grand Valley State Univ.*

4:00 A8 **363.08** Changes in gene expression associated with dedifferentiation of Müller glia in response to an alpha7 nicotinic acetylcholine receptor agonist. M. L. STANCHFIELD*; S. E. WEBSTER; M. K. WEBSTER; C. L. LINN. *Western Michigan Univ.*

1:00 A9 **363.09** The involvement of reactive glial cells in the formation of ectopic corticofugal projections after cortical ablation. L. CHANG; N. SUGO*; N. YAMAMOTO. *Osaka Univ, Grad Sch. Frontier Biosci.*

2:00 A10 **363.10** Enhanced stem cell therapy as a delayed treatment strategy for neonatal stroke. A. LARPTHAVEESARP; P. PATHIPATI; A. RAJAH; S. OSTRIN; D. M. FERRIERO; F. GONZALEZ*. *UCSF, Univ. of California San Francisco.*

3:00 A11 **363.11** Development of clarified tissue scaffold using oil-based decellularized method for tissue engineering. Y. JANG*; B. HA; S. JEONG. *Korea Brain Res. Inst.*

4:00 A12 **363.12** High resolution 3D imaging and analysis of axon regeneration in unsectioned spinal cord with or without tissue clearing. B. J. HILTON*; O. BLANQUIE; A. TEDESCHI; F. BRADKE. *Deutsches Zentrum Für Neurodegenerative Erkrankungen E.V. (DZNE), The Ohio State Univ.*

1:00 A13 **363.13** RGDS and IKVAV peptide-modified capillary alginate hydrogels to improve axon regeneration after spinal cord injury. P. KUMAR*; R. MÜLLER; A. BLESCH. *Indiana Univ. Sch. of Med., Univ. of Regensburg.*

2:00 A14 **363.14** Effects of neuronal loss and regeneration on learning and memory in adult zebrafish. K. SKAGGS*. *Univ. of Findlay.*

3:00 A15 **363.15** Fluorescent screen for identifying axon regeneration genes. N. W. F. GROOMS*; S. E. URENA; M. Q. FITZGERALD; S. H. CHUNG. *Northeastern Univ.*

4:00 A16 **363.16** Aligned fibrous scaffolds containing glycosaminoglycan mimetics promotes neurite extension and myelination. S. HASHEMI*; P. MAUREL; M. OUDEGA; T. L. ARINZEH. *New Jersey Institue of Technolgoy, Rutgers - The State Univ. of New Jersey, Univ. of Miami Dept. of Neurolog. Surgery, New Jersey Inst. of Technol.*

1:00 A17 **363.17** ● Neuroprotective and proregenerative effects of human Wharton's jelly-derived mesenchymal stem cell in a optic nerve lesion model. A. J. SILVA*, Jr; L. A. MESENTIER-LOURO; G. NASCIMENTO DOS SANTOS; J. VASQUES; L. CHIMELI-ORMONDE; L. COELHO TEIXEIRA PINHEIRO; V. BODART-SANTOS, SR; L. R. P. CARVALHO; R. L. LOUZADA; M. F. SANTIAGO; R. MENDEZ-OTERO. *Federal Univ. of Rio De Janeiro, Stanford Univ., Univ. Federal Do Rio De Janeiro, UFRJ, Univ. Federal Do Rio De Janeiro, Laboratório De Neurobiologia Celular E Mol., Univ. Federal Do Rio De Janeiro, Federal Univ. of Rio de Janeiro, Federal Univ. of Rio de Janeiro, Univ. Federal Do Rio De Janeiro, Univ. Federal do Rio de Janeiro.*

2:00 A18 **363.18** ▲ The combinatorial effect of constituatively active Rheb and Taxol on axon outgrowth *in vitro* on inhibitory and growth-promoting substrates. L. R. BENITEZ-RAMOS*; L. MARTIN; C. LE; N. ALEGER; V. VELEZ; A. L. HAWTHORNE. *Univ. of Central Florida, Univ. of Central Florida.*

3:00 A19 **363.19** ● A gutsy move for Parkinson's disease: Targeting the gut microbiome with human umbilical cord blood plasma to arrest neuroinflammation and gut motility deficits. J. LEE; J. P. TUAZON; J. EHRHART; P. R. SANBERG; C. V. BORLONGAN*. *Univ. of South Florida, Univ. of South Florida, Univ. of South Florida, Univ. of South Florida.*

4:00 A20 **363.20** Characterizing astrocytes as a cell source for reprogramming and transplantation to repair the brain. A. R. STEEVENS*; S. RADHA; E. F. MARRON; W. C. LOW. *Univ. of Minnesota Twin Cities, Univ. of Minnesota.*

1:00 A21 **363.21** Successful zebrafish optic nerve regeneration is dependent upon dynamic regulation of protein-DNA and protein-protein interactions. A. J. UDVADIA*; S. P. DHARA; H. L. LESKINEN; A. RAU; P. L. AUER. *Univ. of Wisconsin Milwaukee, Inst. Natl. de la Recherche Agronomique, Univ. of Wisconsin Milwaukee.*

2:00 A22 **363.22** Integrin facilitates optimal growth of primary rat cortical endothelial cells *in vitro*. R. KUWAR; X. WEN; N. ZHANG; D. SUN*. *Virginia Commonwealth Univ.*

3:00 A23 **363.23** Cross-species comparison of gene expression following spinal cord injury supports a role for ATF3 in central nervous system regeneration. H. R. KATZ*; A. A. ARCESE; O. BLOOM; J. R. MORGAN. *Marine Biol. Lab., The Feinstein Inst. For Med. Res.*

4:00 A24 **363.24** Cellular reprogramming in experimental Parkinson's disease. S. RADHA*; A. R. STEEVENS; E. MARRON; A. CRANE; A. W. GRANDE; W. C. LOW. *Univ. of Minnesota Twin Cities Campus, Univ. of Minnesota Twin Cities, Univ. of Minnesota, Univ. of Minnesota, Univ. of Minnesota.*

1:00 A25 **363.25** Spinal cord injury in lampreys induces microglia/macrophage interactions with regenerating axons. E. GUADARRAMA*; J. R. MORGAN. *Marine Biol. Lab.*

POSTER

364. Neuronal Morphogenesis

Theme A – Development

Mon. 1:00 PM – *McCormick Place, Hall A*

1:00 A26 **364.01** Role of Per3, a circadian clock gene, in corticogenesis. K. NAGATA*; M. NODA; I. IWAMOTO; H. TABATA; H. ITO. *Inst. for Developmental Research, Aichi Developmental Disability Ctr.*

2:00 A27 **364.02** PlexinA1 is crucial for the midline crossing of cingulate axons in the developing corpus callosum under BALB/cAJ genetic background. M. HOSSAIN*; T. TSUZUKI; K. SAKAKIBARA; F. IMAIZUMI; A. IKEGAYA; M. INAGAKI; I. TAKAHASHI; T. NEGISHI; K. YUKAWA; T. ITO; H. TAKAMATSU; A. KUMANOGOH. *Meijo Univ., Aichi Med. Univ., Osaka Univ.*

3:00 A28 **364.03** ● Phosphorylation of FE65 serine 459 by protein kinase C zeta potentiates neurite outgrowth. W. LI*; D. CHAU; K. LAU. *Shenzhen Inst. of Advanced Technol., The Chinese Univ. of Hong Kong.*

4:00 A29 **364.04** Exploring the unexpected - How a glycan biosynthesis inhibitor changes cell morphology and mitochondria. C. MENCIO*; S. TILVE; H. KATAGIRI; H. M. GELLER. *NIH, Natl. Heart, Lung, and Blood Institute, NIH.*

1:00 A30 **364.05** Ca^{2+} -activated non-selective cation channel (TRPM4) modulates neurite growth in cortical neurons. N. JUANCHUTO-VIERTEL; E. LEIVA-SALCEDO; D. RIQUELME*. *Univ. de Santiago.*

2:00 A31 **364.06** ▲ Dysregulation of adhesion dynamics in TSC2 deficient human forebrain neurons. M. M. ONESTO*; T. S. CATLETT; T. M. GOMEZ. *Univ. of Wisconsin-Madison.*

3:00 A32 **364.07** Serotonergic fibers as random walks - A spatial analysis. K. C. MAYS*; K. L. THOMAS; C. A. LOUIE; A. ZHANG; J. H. HAIMAN; S. JANUSONIS. *Univ. of California, Santa Barbara.*

1:00 DP01/A33 **364.08** (Dynamic Poster) GTP-bound ran regulates non-centrosomal microtubule formation and is transported by actin waves towards the neurite tip. C. HSU; Y. HUANG; H. CHIU; C. T. HO; W. LO; E. HWANG*. *Natl. Chiao Tung Univ., Natl. Chiao Tung Univ., Natl. Chiao Tung Univ.*

1:00 A34 **364.09** Interrogating functional interactions between Cadherin 8 and Cadherin 11. C. R. MERCEDES*; R. E. MESIAS; Y. ZAKI; G. W. HUNTLEY; D. L. BENSON. *Grad. Sch. of Biomed. Sciences, Icahn Sch. of Med. at Mount Sinai.*

1:00 DP02/A35 **364.10** ● (Dynamic Poster) Human stem cell-derived photoreceptors generate processes by non-cell autonomous pulling. S. K. REMPEL*; Y. KANCHERLA; D. J. ZACK; D. M. GAMM; T. M. GOMEZ. *Univ. of Wisconsin - Madison, Johns Hopkins Univ., Univ. of Wisconsin - Madison.*

3:00 A36 **364.11** Decreasing geranylgeranylation of RhoA and Rac1 increases cortical actin content by increasing activation of WAVE/ARP and JNK pathways. N. G. R. RAUT*; J. M. REDDY; D. L. HYNDS. *Texas Woman's Univ., Texas Woman's Univ.*

4:00 A37 **364.12** LIM and SH3 protein 1 promotes actin-based axon development. S. L. POLLITT*; K. R. MYERS; J. YOO; G. ARORA; J. Q. ZHENG. *Emory Univ. Dept. of Cell Biol., Emory Univ., Univ. of Georgia.*

1:00 A38 **364.13** TNFR2 activation enhances neurite outgrowth in cortical neurons. M. GERALD; J. RICARD*; V. BRACCHI-RICARD*; R. FISCHER; R. KONTERMANN; K. PFIZENMAIER; D. RICCI; Y. ARGON; J. BETHEA. *Drexel Univ., Univ. of Stuttgart, Univ. of Pennsylvania.*

2:00 A39 **364.14** Growth cone invadosome formation and function in developing spinal axon growth and guidance. C. A. SHORT*; G. D. FRANCIS, Jr.; T. M. GOMEZ. *Univ. of Wisconsin, Univ. of Wisconsin, Madison, Univ. of Wisconsin Madison Sch. of Med. and Publ. Hlth.*

● Indicated a real or perceived conflict of interest, see page 150 for details.
▲ Indicates a high school or undergraduate student presenter.
* Indicates abstract's submitting author

3:00 A40 **364.15** Systematic analysis of effects of glucose in CNS neurons-implications to diabetes related neurodegeneration. V. DEVANATHAN*; H. CHAKRAVARTHY; G. SURESH; S. SHARMA; A. MARIMUTHU. *IISER Tirupati, IISER.*

4:00 A41 **364.16** Nox-derived hyrogen peroxide is required for neural development in zebrafish embryos. A. TERZI*; C. J. WEAVER; H. S. ROEDER; T. M. GUROL; Q. DENG; Y. F. LEUNG; D. M. SUTER. *Purdue Univ., Purdue Univ.*

1:00 A42 **364.17** Regulation of axonal length and 4EBP1, independent of mTORC1 activity, by a farnesylation-defective Rheb in embryonic primary neurons. S. CHOI; A. SADRA; J. KANG; J. RYU; J. KIM; W. SUN; S. HUH*. *Hallym Univ. Med. Sch., Brain Korea 21, Korea Univ.*

POSTER

365. Axon Growth and Guidance: Axonal Transport and Trafficking

Theme A – Development

Mon. 1:00 PM – *McCormick Place, Hall A*

1:00 A43 **365.01** Distribution regularity of mitochondria and en passant presynaptic sites along axon in the cerebellar granule neurons. I. HORI*; N. MATSUMOTO; S. MIYAKE; Y. KONISHI. *Fac. of Engineering, Univ. of Fukui, Fac. of Med. Sciences, Univ. of Fukui, Life Sci. Innovation Center, Univ. of Fukui.*

2:00 A44 **365.02** ● Sara protein participation as a negative regulator of the transforming growth factor β signaling pathway during neuronal development. V. ROZES-SALVADOR*; S. SIRI; C. GONZALEZ-BILLAULT; C. B. CONDE. *INIMEC-CONICET-UNC, Natl. Univ. of Villa María UNVM, Dept Biology, Fac of Sci., Inst. Mercedes Y Martin Ferreyra (INIMEC-CONICET).*

3:00 A45 **365.03** Precise removal of Calm1 long 3′UTR isoform by CRISPR-Cas9 genome editing impairs dorsal root ganglion development in mice. H. N. GRUNER; B. BAE*; M. LYNCH; D. OLIVER; K. SO; G. S. MASTICK; W. YAN; P. MIURA. *Univ. of Nevada Reno, Univ. of Nevada Reno Sch. of Med.*

4:00 A46 **365.04** Subcellular regulation of protein synthesis in dopaminergic neurons. B. D. HOBSON*; L. KONG; O. LIEBERMAN; D. SULZER; P. A. SIMS. *Columbia Univ. Med. Ctr., Columbia Univ. Med. Ctr.*

1:00 A47 **365.05** Molecular, cellular, electrophysiological and behavioral correlates of neuronal dysfunction in KSRP knockout mice. M. DELL'ORCO*; P. PATEL; S. L. OLGUIN; A. S. GARDINER; R. D. COLE; P. I. ORTINSKI; A. M. ALLAN; J. L. BRIGMAN; J. L. TWISS; N. I. PERRONE-BIZZOZERO. *Univ. of New Mexico Sch. of Med., Univ. of South Carolina, Univ. of New Mexico Sch. of Med., Univ. of Kentucky, Univ. of South Carolina.*

2:00 A48 **365.06** A CLN6-CRMP2-KLC4 complex regulates anterograde, ER-derived vesicle trafficking in cortical neurites. K. A. WHITE*; J. T. CAIN; S. KOH; T. B. JOHNSON; D. TIMM; D. STURDEVANT; K. HENSLEY; J. M. WEIMER. *Sanford Hlth., Univ. of Toledo Med. Ctr.*

3:00 A49 **365.07** Selective axonal translation of prenylated Cdc42 mRNA isoform supports axon growth. M. D. ZDRADZINSKI*; S. J. LEE; P. PATEL; A. N. KAR; P. SAHOO; K. D. LANTZ; J. L. TWISS. *Univ. of South Carolina.*

4:00 A50 **365.08** Investigating the role of Miro 1-dependent mitochondrial trafficking in GABAergic interneurons. K. NDOCI*; P. PELZER; V. SAKTHIVELU; G. WANI; J. M. SHAW; M. BERGAMI. *Cologne Excellence Cluster on Cell. Stress Responses in Aging-Associated Dis. (CECAD), Univ. of Utah Sch. of Med., Ctr. for Mol. Med. (CMMC).*

1:00 DP03/A51 **365.09** ▲ (Dynamic Poster) Identifying regulators of neuronal transport. M. FEOLE*; V. M. POZO DEVOTO; M. ČARNA; G. B. STOKIN. *Fakultni Nemocnice U Sv Anny V Brne - Intl. Clin. Res. Ctr., Fakultní Nemocnice U Sv. Anny V Brne, Fakultny Nemocnice U Sv Anny.*

2:00 A52 **365.10** Cooperation of MAP7 and tau controls regional regulation of axonal transport in sensory neurons. S. TYMANSKYJ*; L. MA. *Thomas Jefferson Univ.*

3:00 A53 **365.11** Growth cone molecular machinery locally implements the development of subtype-specific neocortical circuitry. J. HATCH*; A. POULOPOULOS; A. ENGMANN; J. MACKLIS. *Harvard Univ., Univ. of Maryland Sch. of Med.*

4:00 A54 **365.12** ● Defects in transport of SFPQ RNA granules by KIF5A/KLC1 motors contribute to axon degeneration in CMT. Y. FUKUDA*; M. F. PAZYRA-MURPHY; O. E. TASDEMIR-YILMAZ; H. SEO; S. DHE-PAGANON; R. A. SEGAL*. *Dana-Farber Cancer Inst.*

1:00 A55 **365.13** 3'Utr RNA sequence motifs that direct subtype-specific axonal RNA trafficking during development of cerebral cortex projection neurons: Identification and functional analysis via computationally-enabled, massively parallel reporter assay (mprau) *in vivo*. P. VEERARAGHAVAN*; J. J. HATCH; J. D. MACKLIS. *Harvard Univ.*

2:00 A56 **365.14** DNA-methyltranseferase 1 participates in methylation of neuronal enhancer in post-mitotic neuron of mammalian brain. M. NAMIHIRA*; A. KIMURA; Y. SAITO; T. MATSUDA; T. IMAMURA; H. NOGUCHI; M. I. OTSUKA; K. IGARASHI; F. MIURA; T. ITO; S. KATADA; K. NAKASHIMA. *Biomed. Res. Institute, AIST, Grad. Sch. of Med. Sciences, Kyushu Univ., Artificial Intelligence Res. Center, AIST, L-StaR, Hoshi Univ., Dept. of Med. Biochemistry, Grad. Sch. of Med. Sciences, Kyushu Univ.*

3:00 A57 **365.15** ● LKE maintains tubulin polymerization and CRMP2 function in cortical neurons and oligodendrocyte precursor cells during inflammation *in vitro*. V. L. SAVCHENKO*; D. L. FEINSTEIN. *Univ. of Illinois at Chicago.*

POSTER

366. Genetic and Neural Mechanisms for Development Disorders

Theme A – Development

Mon. 1:00 PM – *McCormick Place, Hall A*

1:00 A58 **366.01** Dysregulation and restoration of homeostatic network plasticity in fragile X syndrome mice. D. E. EAGLEMAN*; K. A. JEWETT; K. LEE; S. SORIANO; D. LIU; N. TSAI. *Univ. of Illinois at Urbana-Champaign, Univ. of Illinois at Urbana-Champaign.*

2:00 A59 **366.02** Impaired reliability and precision of spiking in adults but not juveniles in a mouse model of Fragile X syndrome. D. DWIVEDI*; S. CHATTARJI; U. S. BHALLA. *Natl. Ctr. For Biol. Sci., Natl. Ctr. for Biol. Sci., Ctr. for Brain Develop. and Repair, Inst. for Stem Cell Biol. and Regenerative Med., Ctr. for Discovery Brain Sciences, Deanery of Biomed. Sciences, Univ. of Edinburgh, Hugh Robson Building, 15 George Square.*

• Indicated a real or perceived conflict of interest, see page 150 for details.
▲ Indicates a high school or undergraduate student presenter.
* Indicates abstract's submitting author

3:00 A60 **366.03** Mitochondrial deficits contribute to impaired dendritic maturation in FXS human and mouse neurons. M. SHEN*; X. ZHAO. *UW-Madison.*

4:00 A61 **366.04** Loss of fragile x protein fmrp impairs homeostatic synaptic downscaling through tumor suppressor p53 and ubiquitin E3 ligase Nedd4-2. K. LEE*; K. A. JEWETT; H. CHUNG; N. TSAI. *Univ. of Illinois at Urbana-Champaign, Univ. of Illinois at Urbana-Champaign.*

1:00 A62 **366.05** FMRP deficiency up-regulates miR-128 and contributes to GLT1 dysregulation in Fmr1 KO astrocytes. Y. MEN*; V. PROMES; R. JARVIS; J. YELICK; E. BROWN; Y. YANG. *Tufts Univ.*

2:00 A63 **366.06** Altered ionotropic receptor maturation underlies network dysregulation and impaired auditory critical periods of Fragile X knockout mice. Y. J. SONG*; F. E. JENSEN. *Univ. of Pennsylvania, Perelman Sch. of Med.*

3:00 A64 **366.07** The role of potassium channels as pharmacological targets for Fragile X syndrome. W. E. CRUSIO*; S. MIDDEI; J. GAUDISSARD; M. PREMOLI; V. LEMAIRE-MAYO; S. PIETROPAOLO. *CNRS and Univ. of Bordeaux, Italian Natl. Res. Council, Univ. of Brescia.*

4:00 A65 **366.08** Cell type-specific profiling of molecular defects in a human induced pluripotent stem cell model of fragile X syndrome. N. RAJ*; Z. T. MCEACHIN; M. J. TALIAFERRO; F. ZHANG; Y. ZHOU; M. E. MERRITT-GARZA; C. M. HALES; E. M. BERRY-KRAVIS; S. T. WARREN; P. JIN; Z. WEN; G. J. BASSELL. *Emory Univ. Sch. of Med., Univ. of Colorado, Emory Univ., Emory Univ., Emory Univ., Rush Univ. Med. Ctr., Emory Univ. Sch. of Med., Emory Univ. Sch. of Med.*

1:00 A66 **366.09** Hypoactivity and increased variability of neural dynamics in fragile X circuits. H. MOTANIS*; D. V. BUONOMANO. *UCLA, UCLA.*

2:00 A67 **366.10** Alteration in the intracellular cross-talk between mitochondria and exosome in the developmental disorder. B. HA*; J. HEO; Y. JANG; T. PARK; K. LIM; S. JEONG. *Korea Brain Res. Inst.*

3:00 A68 **366.11** Cell type-specific deletion of FMR1 in somatostatin and parvalbumin interneurons results in distinct behavioral phenotypes. M. KALINOWSKA*; M. VAN DER LEI; E. KLANN. *New York Univ.*

4:00 A69 **366.12** Mitochondrial inefficiency linked to abnormal metabolism, synaptic immaturity and behavioral deficits in fragile X syndrome. P. LICZNERSKI*; H. PARK; P. MIRANDA; R. CHEN; M. GRAHAM; N. MNATSAKANYAN; J. WU; N. CRUZ-REYES; N. MEHTA; S. SOHAIL; J. SALCEDO; V. K. GRIBKOFF; B. MURTISHI; H. ROLYAN; R. J. LEVY; E. A. JONAS. *Yale Univ. Sch. of Med., Univ. of Alabama, Yale Univ. Sch. of Med., Marine Biol. Lab., Columbia Univ. Med. Ctr.*

1:00 A70 **366.13** Maternal stress and prenatal fluoxetine exposure on offspring of fragile X knockout mice. A. L. ARZUAGA*; M. PATEL; J. MROCZEK; J. LARSON; M. E. RAGOZZINO. *Univ. of Illinois at Chicago, Univ. of Illinois at Chicago, Univ. of Illinois at Chicago, Univ. of Illinois at Chicago, Univ. of Illinois at Chicago.*

2:00 A71 **366.14** Norbinaltorphimine, a kappa opioid receptor antagonist influences behavioral phenotypes in a fragile X mouse model. D. M. M. MCCARTHY*; M. X. TRUPIANO; L. ZHANG; P. G. BHIDE. *Florida State Univ. Col. of Med.*

3:00 A72 **366.15** Uncovering the role of mTORC2 in fragile X syndrome. S. ROUDABUSH*; J. YAN; R. ZUKIN. *Albert Einstein Col. of Med., Albert Einstein Col. Med.*

4:00 A73 **366.16** ● Cortical morphology in children with the FMR1 premutation. J. Y. WANG*; M. DANIAL; C. SOLEYMANZADEH; B. KIM; Y. XIA; K. KIM; F. TASSONE; T. J. SIMON; R. J. HAGERMAN; S. M. RIVERA. *Univ. of California, Davis, UC Davis, Univ. of California Davis Ctr. for Mind and Brain, Univ. California, Davis.*

1:00 A74 **366.17** Glutamate and GABA in fragile-X syndrome and neurofibromatosis type 1. M. MABIKA; A. LACROIX; M. PROTEAU-LEMIEUX; P. MAURICE; F. CORBIN; J. LEPAGE*. *Sherbrooke Univ.*

2:00 A75 **366.18** Understanding and overcoming pharmacological tolerance in the treatment of fragile-X syndrome. P. K. MCCAMPHILL*; R. K. SENTER; H. J. DE JESÚS-CORTÉS; M. F. BEAR. *MIT, MIT.*

3:00 A76 **366.19** Astrocyte purinergic signaling and thrombospondin-1 expression are dysregulated within the Fragile X Syndrome mouse cortex. K. E. REYNOLDS*; C. R. WONG; L. C. DOERING; A. L. SCOTT. *McMaster Univ., McMaster Univ., McMaster Univ.*

4:00 A77 **366.20** Investigations of oxidative stress in astrocytes of the Fragile X syndrome cortex. G. VANDENBERG; N. DAWSON; A. HEAD; A. L. SCOTT*. *McMaster Univ., McMaster Univ.*

1:00 A78 **366.21** Mitochondrial bioenergetic impairment in the cerebral cortex of the Fmr1 knockout mouse model of Fragile X syndrome. S. D'ANTONI; L. DE BARI; D. VALENTI; C. M. BONACCORSO; R. VACCA; M. CATANIA*. *Inst. of Neurolog. Sciences, Natl. Res. Council (CNR), Inst. of Biomembranes, Bioenergetics and Mol. Biotechnologies, CNR, IRCCS Oasi Res. Inst.*

2:00 A79 **366.22** Audiogenic seizures in the Fmr1 knockout mouse are induced by Fmr1 deletion in subcortical, vGlut2-expressing excitatory neurons and require deletion in the inferior colliculus. D. GONZALEZ; M. TOMASEK; S. A. HAYS; V. SRIDHAR; S. AMMANUEL; C. CHANG; K. PAWLOWSKI; J. R. GIBSON*; K. HUBER. *UT Southwestern, Univ. of Texas At Dallas, UT Southwestern.*

3:00 A80 **366.23** Fear and fragile x syndrome: "Alternative facts" from the amygdala. S. CHATTARJI*. *Natl. Ctr. for Biol. Sci., The Inst. for Stem Cell Biol. and Regenerative Med., The Univ. of Edinburg.*

4:00 A81 **366.24** Adiponectin can rescue hippocampal synaptic plasticity in a mouse model of fragile X syndrome. L. BETTIO*; J. THACKER; E. BROCKMAN; S. YAU; B. R. CHRISTIE. *Univ. of Victoria, Univ. of Victoria, Hong Kong Polytechnic Univ.*

POSTER

367. Animal Models I

Theme A – Development

Mon. 1:00 PM – *McCormick Place, Hall A*

1:00 A82 **367.01** Prefrontal parvalbumin interneurons require juvenile social experience to establish adult social behavior. L. BICKS*; K. YAMAMURO; M. FLANIGAN; J. M. KIM; D. KATO; E. K. LUCAS; H. KOIKE; M. S. PENG; D. BRADY; S. CHANDRASEKARAN; M. R. SMITH; K. J. NORMAN; R. L. CLEM; S. J. RUSSO; S. AKBARIAN; H. MORISHITA. *Icahn Sch. of Med., Icahn Sch. of Med. at Mount Sinai, Icahn Sch. of Med. At Mount Sinai, Icahn Sch. of Med. at Mount Sinai, Icahn Sch. of Med. At Mount Sinai, Icahn Sch. of Med. At Mount Sinai, Mount Sinai Sch. of Med., Icahn Sch. of Med. at Mount Sinai.*

• Indicated a real or perceived conflict of interest, see page 150 for details.
▲ Indicates a high school or undergraduate student presenter.
* Indicates abstract's submitting author

2:00 A83 **367.02** Rhythmic recruitment of prefrontal projection to visual cortex is essential for attentionally demanding behavior. K. J. NORMAN*; H. KOIKE; S. LOPEZ; E. NABEL; K. CARO; J. BATEH; M. FLANIGAN; D. KATO; Y. GARKUN; K. YAMAMURO; Z. DONG; M. DEMARS; D. BRADY; M. G. BAXTER; S. J. RUSSO; H. MORISHITA. *Icahn Sch. of Med. at Mount Sinai, Icahn Sch. of Med. at Mount Sinai.*

3:00 A84 **367.03** Prefrontal circuitry in control of the limbic thalamus requires juvenile social experience to establish adult sociability. K. YAMAMURO; M. B. LEVENTHAL*; L. BICKS; S. IM; D. KATO; Y. GARKUN; M. FLANIGAN; K. J. NORMAN; J. KIM; M. SADAHIRO; K. CARO; S. J. RUSSO; H. MORISHITA. *Dept. of Psychiatry, Icahn Sch. of Med. at Mount Sinai, Dept. of Neuroscience, Icahn Sch. of Med. at Mount Sinai, Dept. of Opthalmology, Icahn Sch. of Med. at Mount Sinai, Mindich Child Hlth. and Develop. Institute, Icahn Sch. of Med. at Mount Sinai, Friedman Brain Institute, Icahn Sch. of Med. at Mount Sinai.*

4:00 A85 **367.04** Social isolation during development reduces excitability of a subtype of pyramidal cell in mouse prefrontal cortex which projects to subcortical areas. Y. NISHIHATA*; H. YOSHINO; Y. OGAWA; T. SUGIMURA; K. OKAMURA; K. YAMAMURO; M. MAKINODAN; M. TORITSUKA; T. KOMORI; T. KANEDA; Y. SAITO; T. KISHIMOTO. *Nara Med. Univ., Nara Med. Univ.*

1:00 A86 **367.05** Adolescent binge ethanol effects on cholinergic and gabaergic interneurons in the prefrontal cortex, striatum and amygdala. A. GOMEZ-A*; R. P. VETRENO; C. DANNENHOFFER; S. OUCHOU; M. DOUGLAS; L. SHAPPELL; R. JAWAD; C. A. BOETTIGER; F. T. CREWS; D. L. ROBINSON. *Univ. of North Carolina At Chapel Hill, Univ. of North Carolina.*

2:00 B1 **367.06** The effect of adolescent phthalate exposure on cognitive behavior in rats. E. P. SELLINGER*; J. WILLING; J. STANLAND; L. MAHLOCH; J. M. JURASKA. *Univ. of Illinois Urbana-Champaign, Bowling Green State Univ., Univ. of Illinois at Champaign-Urbana, Univ. of Illinois.*

3:00 B2 **367.07** Age-dependent α7nAChR modulation of prefrontal inputs and associated fear memory behavior. A. M. M. MIGUELEZ FERNÁNDEZ*; H. M. MOLLA; D. R. THOMASES; K. Y. TSENG. *Univ. of Illinois at Chicago - Col. of Med.*

4:00 B3 **367.08** Sex differences and influences of puberty on the trajectory of perineuronal net development in the rat medial prefrontal cortex. C. DRZEWIECKI*; J. WILLING; E. P. SELLINGER; J. M. JURASKA. *Univ. of Illinois, Bowling Green State Univ., Univ. of Illinois Urbana-Champaign, Univ. of Illinois.*

1:00 B4 **367.09** Postnatal prefrontal myelination and associated maturation of social behaviors are regulated by Npas4 in mice. E. LEMANSKI; C. PAGE; L. COUTELLIER*. *The Ohio State Univ., The Ohio State Univ., The Ohio State Univ.*

2:00 B5 **367.10** Early chronic noise exposure can induce aminoacidergic neurotransmission changes and reactive gliosis in the hippocampus of adolescent rats. Influence of enriched environment housing. S. J. MOLINA; L. D. UDOVIN; C. F. KUSNIER; G. E. BUJÁN; F. CAPANI; L. R. GUELMAN*. *CEFYBO (UBA-CONICET), Inst. Inv. Cardiológicas, UBA-CONICET, Univ. De Buenos Aires, Facultad De Medicina.*

3:00 B6 **367.11** The differential impact of periodic and acute enrichment on evoked activity in the adolescent rat amygdala. C. A. PEGGS; C. E. GAILLARD; C. T. FENNELL; M. P. CARD; A. W. CARPENTER; M. C. ZRULL*. *Appalachian State Univ.*

4:00 B7 **367.12** Post-weaning social isolation-induced social deficits and disrupted network activity across prefrontal subregions. L. BIRO*; C. MISKOLCZI; B. BRUZSIK; H. SZEBIK; Z. K. VARGA; L. SZENTE; O. HORVATH; J. HALASZ; M. TOTH; E. MIKICS. *Inst. of Exptl. Med. Hungarian Acad. of Sci., Vadaskert Child and Adolescent Psychiatry Hosp.*

1:00 B8 **367.13** ClockΔ19 mutation leads to increased oxidative damage and altered adolescent development of parvalbumin interneurons in mouse frontal cortex. J. BURNS*; Z. KARANIKOS; K. N. FISH; J. F. ENWRIGHT, III; C. A. MCCLUNG. *Univ. of Pittsburgh, Univ. of Pittsburgh, Univ. of Pittsburgh Med. Sch.*

2:00 B9 **367.14** Endocannabinoid modulation of prefrontal afferent transmission and associated extinction of fear memory. H. M. MOLLA*; A. M. M. MIGUELEZ FERNANDEZ; K. Y. TSENG. *Rosalind Franklin Univ., Univ. of Illinois at Chicago.*

3:00 B10 **367.15** ▲ Systemic administration of the cannabinoid CB1 receptor agonist WIN during adolescence disrupts the maturation of trace fear extinction behavior. A. Y. OROZCO*; H. M. MOLLA; A. M. MIGUELEZ FERNÁNDEZ; A. CABALLERO; K. TSENG. *Univ. of Illinois At Chicago - Col. of Med., Rosalind Franklin Univ.*

4:00 B11 **367.16** Effects of hippocampal dysregulation on the hyper-dopaminergic state induced by chronic adolescent THC exposure. M. DE FELICE*; T. VINE; R. M. HUDSON; M. LAM; C. CHEN; S. N. WHITEHEAD; K. K. C. YEUNG; W. J. RUSHLOW; S. R. LAVIOLETTE. *Univ. of Western Ontario, Univ. of Western Ontario, Western Univ., UWO.*

1:00 B12 **367.17** Acute ethanol challenge differentially regulates the expression of growth factors in the dorsal hippocampus: A comparison of adolescent and adult rats of both sexes. T. M. BARNEY*; A. S. VORE; T. DEAK. *SUNY Binghamton, Binghamton Univ., Binghamton University-SUNY.*

2:00 B13 **367.18** Adolescent ethanol exposure alters frontolimbic neuronal firing patterns to a reward predictive cue in adult female rats. J. A. POCHAPSKI*; S. J. STRINGFIELD; A. GOMEZ-A; C. A. DANNENHOFFER; H. D. JAGGERS; C. DA CUNHA; C. A. BOETTIGER; D. L. ROBINSON. *Federal Univ. of Parana, Univ. of Pittsburgh, Univ. of North Carolina at Chapel Hill.*

3:00 B14 **367.19** ▲ Anxiety and sociability in adult rats after adolescentcannabinoid exposure. R. D. LUNDY*; C. E. YULE; H. M. PARRISH; L. M. PACK; L. M. BUYNACK; G. D. MEDLEY; D. M. HAYES; P. A. JACKSON. *Radford Univ.*

4:00 B15 **367.20** Perineuronal net development during adolescence is critical for optimal decision-making in adulthood. E. JACOBS-BRICHFORD*; J. D. ROITMAN. *Univ. of Illinois at Chicago, Univ. of Illinois at Chicago.*

1:00 B16 **367.21** Effects of THC on schizophrenia-related gene DNA methylation and expression in mouse primary neuron culture and adolescent mice. G. P. VALLERINI; M. KAZMI; S. KAZMI; D. P. GAVIN*. *Univ. of Illinois at Chicago, Jesse Brown VA Med. Ctr.*

- • Indicated a real or perceived conflict of interest, see page 150 for details.
- ▲ Indicates a high school or undergraduate student presenter.
- * Indicates abstract's submitting author

2:00 B17 **367.22** Developmental nicotine exposure elicits multigenerational neurotrophic, neuroendocrine, and neuroepigenetic alterations in the frontal cortices, striata, and hippocampi of adolescent mice. J. M. BUCK*; H. C. O'NEILL; J. A. STITZEL. *Univ. of Colorado Boulder, Univ. of Colorado Boulder Inst. for Behavioral Genet., Univ. of Colorado Boulder.*

3:00 B18 **367.23** Phytocannabinoids strongly modulate BDNF/TrkB expression in the dorsal hippocampus of adolescent female mice. J. WINSTONE; H. S. SHAFIQUE; K. MACKIE; J. WAGER-MILLER*. *Indiana Univ.*

4:00 B19 **367.24** ▲ Growing up hamster: Analysis of social behavior across adolescence in the Syrian hamster. K. C. DE LORME; A. M. BAUMANN; I. R. GORE; B. M. ARSZNOV*. *Gustavus Adolphus Col., Minnesota State Univ. Mankato.*

1:00 B20 **367.25** Development of memory for conspecifics and caregivers. B. J. LAHAM*; E. C. COPE; E. DIETHORN; E. GOULD. *Princeton Univ.*

2:00 B21 **367.26** Reflexological and physical developmental impairment of male rats offspring induced by maternal stress through the nesting material reduction. P. S. RODRIGUES*; T. MENDES-LIMA; A. C. S. SAMPAIO; L. S. MEDEIROS; M. C. GALVÃO; K. E. KIATAQUI; T. M. REIS-SILVA; N. MOREIRA; T. B. KIRSTEN; M. M. BERNARDI. *Paulista Univ.*

POSTER

368. Neurotransmitters: Transporters and Signaling Molecules

Theme B – Neural Excitability/ Synapses/ and Glia

Mon. 1:00 PM – *McCormick Place, Hall A*

1:00 B22 **368.01** Combination of exercise and pharmacological neuromodulation targeting $GABA_A$ receptors promotes motor recovery and BDNF protein expression in the M1 after focal brain ischemia in rats. T. INOUE*; M. KITAHARA; M. OKAMURA; Y. TAKAMATSU; H. MAEJIMA. *Hokkaido Univ., Res. Fellow of Japan Society for the Promotion of Sci., Hokkaido Univ.*

2:00 B23 **368.02** BDNF V66M variant exhibits reduced functional compliance in mediating neuronal survival. C. JOSEPH*; A. MANGANI; V. GUPTA; S. GRAHAM. *Macquarie Univ.*

3:00 B24 **368.03** Voluntary exercise combined with repetitive inhibition of GABAergic synapses modulates the expression of BDNF in the motor cortex. H. MAEJIMA*; M. HAYASHI; T. INOUE; M. KITAHARA. *Hokkaido Univ., Hokkaido Univ.*

4:00 B25 **368.04** Functional expression of TrkB receptors in hippocampal area CA3 interneurons. E. J. GALVAN*; G. HERRERA-LOPEZ; R. GUTIERREZ; G. BARRIONUEVO. *Cinvestav Sur, Cinvestav Sur, Ctr. for Res. and Advanced Studies, Univ. Pittsburgh.*

1:00 B26 **368.05** Functional expression of TrkB receptor in hippocampal area CA3 interneurons. E. GRIEGO-MELO*; G. HERRERA-LOPEZ; G. GOMEZ LIRA; R. GUTIERREZ; G. BARRIONUEVO; E. J. GALVAN. *Cinvestav Sur, Univ. Pittsburgh.*

2:00 B27 **368.06** Visualizing activity-dependent BDNF expression in living mouse brain. M. FUKUCHI*; R. SAITO; S. MAKI; N. HAGIWARA; S. MITAZAKI; H. MORI. *Takasaki Univ. of Hlth. and Welfare, The Univ. of Electro-Communications, Univ. of Toyama.*

3:00 B28 **368.07** Neuregulin-3 promotes excitatory synapse formation on hippocampal interneurons in a Bace1 dependent manner. T. MULLER*; R. JÜTTNER; B. C. VOIGT; S. BRAUD; F. RATHJEN; J. GEIGER; J. F. A. POULET; C. BIRCHMEIER. *Max-Delbrueck-Center for Mol. Med., Charite.*

4:00 B29 **368.08** PI3K and AKT signaling pathway activated by prolactin in the rat hippocampus. G. MOLINA SALINAS*; V. RODRIGUEZ CHAVEZ; M. CERBON CERVANTES. *Univ. Nacional Autonoma de Mexico.*

1:00 B30 **368.09** Quantification of urinary neurotrophins by ELISA assay in prostate cancer patients. B. MARCH; L. M. FOSTER*; S. FAULKNER; M. SMOLNY; R. A. RUSH; H. HONDERMARCK. *John Hunter Hosp., BIOSENSIS PTY LTD, Univ. of Newcastle.*

2:00 B31 **368.10** Increased accumulation of Rab7 and nerve growth factor receptor TrkA and $p75^{NTR}$ in rat sciatic nerve during peripheral inflammation. V. GUJAR*; K. E. MILLER. *Oklahoma State University, CHS.*

3:00 B32 **368.11** Neurodevelopmental, behavioral and transcriptomic analyses of isoform-specific ErbB4 Cyt-1 mutant mice. L. M. ERBEN*; M. CRONIN; R. MURPHY; M. SKIRZEWSKI; I. KARAVANOVA; D. VULLHORST; S. L. CARROLL; A. BUONANNO. *Section on Mol. Neurobiology, NICHD, NIH, Univ. of Bonn, Med. Univ. of South Carolin.*

4:00 B33 **368.12** NMDA receptors regulate both neuregulin 2 accumulation at ER-PM junctions and ectodomain shedding by ADAM10. D. VULLHORST*; A. L. BUONANNO. *NICHD, NIH, Chief of Sect Mol Neurobiol (SMN), NICHD, NIH.*

1:00 B34 **368.13** Ultrastructural and molecular characterization of PDGFR-β-positive leptomeningeal cells in adult rat brain. T. RIEW*; X. JIN; H. KIM; S. KIM; Y. PARK; K. SUNG; M. LEE. *Col. of Medicine, The Catholic Univ. of Korea, Catholic Neurosci. Institute, The Catholic Univ. of Korea, Integrative Res. Support Center, The Catholic Univ. of Korea, Col. of Medicine, The Catholic Univ. of Korea.*

POSTER

369. Synaptogenesis and Activity-Dependent Development III

Theme B – Neural Excitability/ Synapses/ and Glia

Mon. 1:00 PM – *McCormick Place, Hall A*

1:00 B35 **369.01** Synapse population distributions reveal synaptome architecture including regional differentiation. E. A. FRANSÉN*; M. REHN; Z. QIU; M. J. CIZERON; B. KONIARIS; S. G. N. GRANT. *KTH Royal Inst. of Technol., Univ. of Edinburgh, Inst. NeuroMyoGène.*

2:00 B36 **369.02** ● The dynamic synaptome: A single-synapse resolution atlas of synaptic protein turnover across the mouse brain. E. BULOVAITE*; Z. QIU; M. HORROCKS; B. KONIARIS; N. H. KOMIYAMA; E. FRANSEN; S. G. N. GRANT. *Univ. of Edinburgh, Univ. of Edinburgh, Univ. of Edinburgh, KTH Royal Inst. of Technol., Simons Initiative for the Developing Brain, Ctr. for Discovery Brain Sciences, Univ. of Edinburgh.*

● Indicated a real or perceived conflict of interest, see page 150 for details.
▲ Indicates a high school or undergraduate student presenter.
* Indicates abstract's submitting author

3:00 B37 **369.03** ▲ Climbing fiber-mediated spillover transmission to interneurons is regulated by EAAT4. S. MALHOTRA*; G. BANUMURTHY; J. H. VADEN; L. S. OVERSTREET-WADICHE; J. I. WADICHE. *Univ. of Alabama At Birmingham, Univ. of Alabama at Birmingham.*

4:00 B38 **369.04** NSG2 confers unique postsynaptic properties via AMPAR surface expression in a discrete subset of hippocampal synapses. P. CHANDER*; G. M. ELIASON; J. P. WEICK. *Univ. of New Mexico.*

1:00 B39 **369.05** Usp9X controls ankyrin repeat domain protein homeostasis during dendritic spine development. S. YOON*; E. PARNELL; M. KASHERMAN; M. FORREST; K. MYCZEK; S. PREMARATHNE; M. C. SANCHEZ VEGA; M. PIPER; T. BURNE; L. JOLLY; S. WOOD; P. PENZES. *Northwestern Univ., The Univ. of Queensland, Griffith Univ., The Queensland Brain Inst., Robinson Institute, The Univ. of Adelaide.*

2:00 B40 **369.06** The spinophilin, SAPAP3, and mGlu5 complex as a potential regulatory node of obsessive-compulsive disorder-like behavior. C. W. MORRIS*; D. S. WATKINS; A. J. BAUCUM II. *Stark Neurosciences Res. Inst., Indiana University-Purdue Univ. Indianapolis.*

3:00 B41 **369.07** Mesophasic organization of $GABA_A$ receptors in hippocampal inhibitory synapse. Y. LIU; C. TAO*; X. ZHANG; L. QI; R. SUN; P. LAU; Z. H. ZHOU; G. BI. *Univ. of Sci. and Technol. of China, Zhejiang Univ., Univ. of California, Log Angles.*

4:00 B42 **369.08** Gephyrin phosphorylation regulates sex-dependent inhibitory connectivity in the mouse brain. B. F. N. CAMPBELL*; M. HLEIHIL; S. K. TYAGARAJAN. *Univ. of Zurich, Univ. of Zurich.*

1:00 B43 **369.09** Latrophilin adhesion GPCRs direct synapse specificity by coincident binding of FLRTs and Teneurins. R. SANDO*; X. JIANG; T. C. SUDHOF. *Stanford Univ.*

2:00 B44 **369.10** The nanoscale organization of glutamate receptor subtypes is optimized for synaptic function and plasticity. M. HRUSKA*; R. CAIN; M. B. DALVA. *Thomas Jefferson Univ., Thomas Jefferson Univ.*

3:00 B45 **369.11** Proteomics and functions of the synaptic proteins circulating in the CSF in schizophrenia. M. DOS SANTOS*; E. K. BOMBA-WARCZAK; E. L. PARNELL; D. D. LOIZZO; R. GAO; M. D. MARTIN-DE-SAAVEDRA; J. N. SAVAS; P. PENZES. *Northwestern Univ., Northwestern Univ., Northwestern Univ.*

4:00 B46 **369.12** Patch clamp recordings in adult mouse thoracic paravertebral ganglia show changes in spontaneous event frequency and amplitude after spinal cord injury. D. B. STOCKTON; M. L. MCKINNON*; Y. LI; S. HOCHMAN; A. A. PRINZ. *Emory Univ., Emory Univ. Sch. Med.*

1:00 B47 **369.13** Neuroligin4 regulates excitatory synaptic transmission in human neurons. S. G. MARRO*; S. CHANDA; T. C. SUDHOF; M. WERNIG. *Stanford Univ., Stanford Univ., Stanford Univ.*

2:00 B48 **369.14** DKK2 regulates neuronal development and synaptic transmission in hippocampal CA1 neurons. W. SONG*; S. H. YOON; M. KIM. *Seoul Natl. Univ. Col. of Med.*

3:00 B49 **369.15** Lack of interaction between gephyrin and tubulin at the inhibitory post-synapse. I. ARIOZ*; A. BECKER; D. DIETRICH; S. SCHOCH. *Inst. of Neuropathology, Univ. Clin. Bonn.*

1:00 DP04/B50 **369.16** (Dynamic Poster) Insights into spinule dynamics, regulation, and function uncovered by 3D enhanced resolution microscopy. C. R. ZACCARD*; L. P. SHAPIRO; C. P. PRATT; K. MYCZEK; M. D. MARTIN-DE-SAAVEDRA; P. PENZES. *Northwestern Univ., Northwestern Univ., Nothwestern Univ. Feinberg Sch. Med.*

1:00 B51 **369.17** Ion channel dysfunction and seizure susceptibility in the 16p11.2 duplication mouse model is mediated by epilepsy gene PRRT2. M. P. FORREST*; N. H. PIGUEL; Y. WANG; D. SIMKIN; L. E. DIONISIO; N. HAWKINS; V. BAGCHI; M. DOS SANTOS; A. L. GEORGE, Jr.; J. KEARNEY; J. N. SAVAS; P. PENZES. *Northwestern Univ., Northwestern Univ., Northwestern Univ.*

2:00 B52 **369.18** Computational modeling of crosstalk between different calcium stores in dendritic spines. D. OHADI*; P. RANGAMANI. *UCSD.*

3:00 B53 **369.19** Stimulation induces gradual increases in the thickness and curvature of the postsynaptic density. J. TAO-CHENG*. *NIH.*

4:00 B54 **369.20** Towards quantification of plasticity-related protein turnover at central synapses. M. KUWAJIMA*; N. T. N. PHAN; J. M. MENDENHALL; G. KNOTT; S. O. RIZZOLI; K. M. HARRIS. *Univ. of Texas at Austin, Univ. of Göttingen Med. Ctr., Ecole Polytechnique Fédérale de Lausanne.*

Mon. PM

1:00 B55 **369.21** Partial segregation of spontaneous and evoked neurotransmission at inhibitory synapses. P. M. HORVATH*; L. M. MONTEGGIA; E. T. KAVALALI. *Vanderbilt Univ., Vanderbilt Brain Inst., Vanderbilt Univ.*

2:00 B56 **369.22** Wnt5a modulates dendritic spines morphology through the small Rho GTPases and their downstream target Cofilin. D. VALLEJO*; C. B. LINDSAY; C. GONZALEZ-BILLAULT; N. C. INESTROSA. *Ctr. for Aging and Regeneration (CARE), P. Catholic Univ. of Chile, Univ. of Chile, Ctr. of Excellence of Biomedicine of Magallanes (CEBIMA), Univ. of Magallanes.*

1:00 DP05/B57 **369.23** (Dynamic Poster) Thalamo cortical synaptic network in motor cortex analyzed with large volume electron microscopy. Y. KUBOTA*; J. SOHN; E. KURAMOTO; Y. KAWAGUCHI. *Natl. Inst. Physiol Sci. (NIPS), Sokendai, JSPS Res. Fellow, Kagoshima Univ.*

4:00 B58 **369.24** ANK3 190 kDa isoform protein palmitoylation mediates dendrite and spine morphogenesis and is altered in response to lithiumdendrite and spine morphogenesis and is altered in response to lithium. N. H. PIGUEL*; S. YOON; F. I. DE SIMONE; S. S. SANDERS; G. M. THOMAS; P. PENZES. *Northwestern University, Feinberg Sch. of Med., Northwestern University, Ctr. for Autism and Neurodevelopment, Lewis Katz Sch. of Medicine, Temple Univ., Temple Univ., Temple Univ. Sch. of Med., Northwestern University, Feinberg Sch. of Med.*

1:00 B59 **369.25** ▲ Neuroligins maintain clustering of AMPA receptors at a central synapse. Y. HAN*; L. Y. CHEN; T. C. SUDHOF; B. ZHANG. *Southern Univ. of Sci. and Technol., Univ. of California, Stanford Univ., Stanford Univ. Sch. of Med.*

- • Indicated a real or perceived conflict of interest, see page 150 for details.
- ▲ Indicates a high school or undergraduate student presenter.
- * Indicates abstract's submitting author

POSTER

370. Epilepsy: Genetic Mechanisms and Animal Models

Theme B – Neural Excitability/ Synapses/ and Glia

Mon. 1:00 PM – *McCormick Place, Hall A*

1:00 B60 **370.01** Using *drosophila* models to study PNPO deficiency and PNPO mutations identified in epilepsy patients. W. CHI*; A. S. R. IYENGAR; M. ALBERSEN; W. LIU; M. BOSMA; N. VERHOEVEN-DUIF; C. WU; X. ZHUANG. *Univ. of Chicago Dept. of Neurobio., Univ. of Iowa, Univ. Med. Ctr. (UMC) Utrecht, China Med. Univ.*

2:00 B61 **370.02** Alterations of an evolutionarily conserved electroconvulsive seizure-flight motor sequence by two classes of hyperexcitable *Drosophila* mutations. A. IYENGAR*; C. WU. *Univ. of Iowa.*

3:00 B62 **370.03** Novel cellular and zebrafish model system of DNM1 epileptic encephalopathy. L. LLACI*; G. C. MILLS; R. PANDEY; R. GUPTA; E. FRANKEL; C. BILAGODY; R. C4RCD; V. NARAYANAN; S. RANGASAMY. *Translational Genomics Res. Inst. (TGen).*

4:00 B63 **370.04** Sestrin3 and seizures after traumatic brain injury. Q. ZHOU*; Z. LEI; L. ZHOU; X. DONG; Z. C. XU. *Stark Neurosciences Res. Inst., Indiana Univ. Sch. of Med., GHM Inst. of CNS Regeneration, Jinan Univ., Indiana Univ. Sch. of Med., Indiana Univ. Med. Ctr.*

1:00 B64 **370.05** Genetic modifiers influence survival in a mouse model of Dravet syndrome. N. A. HAWKINS; L. D. COPELAND-HARDIN; S. E. DUARTE; J. A. KEARNEY*. *Northwestern Univ. Feinberg Sch. of Med., Northwestern Univ. Feinberg Sch. of Med.*

2:00 B65 **370.06** A CRISPRi screen in human iPSC-derived iNeurons to discover novel focal cortical dysplasia genes. A. M. TIDBALL*; J. L. MARGOLIS; T. W. GLENN; G. L. CARVILL; J. M. PARENT. *Univ. of Michigan, Northwestern Univ.*

3:00 B66 **370.07** Genomic dissection of the 5p15-q12 locus implicates the CDC20B gene in a juvenile myoclonic epilepsy family. P. BARAK*; A. ANAND; M. KAUR; S. SINHA; P. SATISHCHANDRA; G. KURUTTUKULAM. *Jawaharlal Nehru Ctr. For Advanced Scientific Res., NIMHANS, Lourdes Hosp.*

4:00 B67 **370.08** Precision medicine in FGF12 related developmental and epileptic encephalopathy. S. SEIFFERT*; N. SCHWARZ; K. HELBIG; I. HELBIG; M. PENDZIWIAT; Y. WEBER. *Hertie Inst. for Clin. Brain Res., Div. of Neurology, Children's Hosp. of Philadelphia, Dept. of Biomed. and Hlth. Informatics (DBHi), Children's Hosp. of Philadelphia, Dept. of Neuropediatrics, Christian-Albrechts-University of Kiel, Dept. of Neurology, Univ. of Pennsylvania, Perelman Sch. of Med., Dept. of Neurosurgery, Univ. of Tuebingen.*

1:00 B68 **370.09** lncRNAs modulate MAPK signaling in human neocortical epilepsy. A. KIRCHNER*; S. ZARINEBEF; F. DACHET; L. LIPOVICH; J. A. LOEB. *Univ. of Illinois at Chicago Col. of Med., Wayne State Univ.*

2:00 B69 **370.10** Dynamics sustaining focal seizures: A dual function of inhibition and interaction across scales. W. VAN DRONGELEN*; A. K. TRYBA; T. PHAM; E. M. MERRICKS; A. BHANSALI; L. PESCE; S. CHO; S. LEE; T. EISSA; D. R. NORDLI, Jr.; C. A. SCHEVON. *Univ. Chicago, The Univ. of Chicago, Univ. of Chicago, Columbia Univ. Med. Ctr., North Texas Neurosurgical & Spine Ctr., Univ. of Colorado Boulder, Columbia Univ.*

3:00 B70 **370.11** Permanent functional silencing of hippocampal parvalbumin- or somatostatin-interneurons induces epilepsy. M. DREXEL*; A. BUKOVAC; R. O. TASAN; G. SPERK. *Med. Univ. of Innsbruck.*

4:00 B71 **370.12** Presynaptic GABA-B receptor modulation of hippocampal dentate network excitability during cortical UP states in an experimental model of epilepsy. D. SUBRAMANIAN*; S. RATNADURAI-GIRIDHARAN; V. SANTHAKUMAR. *Univ. of California, Burke Neurolog. Inst.*

1:00 B72 **370.13** Interneuron-driven interictal spikes in an *in vitro* model of post-traumatic epilepsy. K. P. LILLIS*; L. A. LAU; K. J. STALEY. *Massachusetts Gen. Hosp.*

2:00 B73 **370.14** ▲ Direct evidence for excitatory GABAergic transmission in acute and chronic mouse models of epilepsy *in vivo.* A. FERREIRA GOMES DA SILVA*. *INSERM U1215.*

3:00 B74 **370.15** Sex and inhibition: Role of sex hormones during the development of hippocampal GABAergic network. D. C. WOLF*; N. T. SANON; A. O. CUNHA; T. SHAKER; A. ELHASSAN; S. A. F. NASCIMENTO; L. CARMANT; G. DI CRISTO; A. G. WEIL. *CHU Sainte Justine - Univ. de Montréal, Univ. de Montréal, Univ. of Sao Paulo.*

4:00 B75 **370.16** Spontaneous seizures can cross a transection by electric field coupling *in-vitro* and *in-vivo.* C. CHIANG*; R. SHIVACHARAN; N. H. COUTURIER; M. SUBRAMANIAN; D. M. DURAND. *Case Western Reserve Univ., Case Western Reserve Univ., Case Western Reserve Univ., Case Western Res. Univ.*

POSTER

371. Antiepileptic Therapies

Theme B – Neural Excitability/ Synapses/ and Glia

Mon. 1:00 PM – *McCormick Place, Hall A*

1:00 B76 **371.01** Fetal medial ganglionic eminence-derived GABAergic progenitors transplanted into the dentate gyrus of mice with temporal lobe epilepsy regulate adult neurogenesis. M. N. ARSHAD*; J. JEONG; B. BUYUKDEMIRTAS; M. ADLER-WACHTER; F. WICKHAM; S. MARRA; S. FOX; J. R. NAEGELE. *Wesleyan Univ.*

2:00 B77 **371.02** Development of electrophysiological properties and dendritic morphologies in human pluripotent stem cell-derived GABAergic interneurons transplanted into the hippocampus of adult mice with pilocarpine-induced temporal lobe epilepsy. S. SHRESTHA*; N. ANDERSON; J. NAEGELE; L. GRABEL; G. AARON. *Wesleyan Univ.*

3:00 B78 **371.03** ▲ Patterns of limbic seizures induced by chemogenetic silencing of GABAergic neurons in the adult mouse hippocampus and entorhinal cortex. N. H. CIMINO*; M. N. ARSHAD; M. A. VAN ZANDT; D. B. LAWRENCE; K. T. COBBOL; A. R. HOOKER; J. R. NAEGELE. *Wesleyan Univ.*

4:00 B79 **371.04** *In vitro* anticonvulsant activity of pterolobium stellatum extracts. S. S. SALILE*; T. ABULA; J. H. LEE; J. V. RAIMONDO. *Addis Ababa University, Sch. of Pharm., Univ. of Cape Town.*

1:00 B80 **371.05** Effects of hippocampal temporally irregular deep brain stimulation over PTZ-induced seizures in rats. D. MARTINEZ-VARGAS*; E. URBINA-TREJO; F. SANTOS-VALENCIA; S. ALMAZÁN-ALVARADO; A. RUBIO-LUVIANO. *Inst. Nacional de Psiquiatria, Inst. Nacional de Psiquiatria.*

• Indicated a real or perceived conflict of interest, see page 150 for details.
▲ Indicates a high school or undergraduate student presenter.
* Indicates abstract's submitting author

2:00 B81 **371.06** Combined neural stem cell grafting and ganaxolone therapy greatly eases spontaneous seizures and co-morbidities in a model of chronic TLE. R. UPADHYA*; M. KODALI; B. SHUAI; J. XU; D. UPADHYA; A. K. SHETTY. *Inst. For Regen Med, Texas A&M Univ. Coll Med., Olin E. Teague Veterans Med. Center, CTVHCS.*

3:00 B82 **371.07** Deep brain stimulation in the parahippocampus as an alternative target for the treatment of mesial temporal lobe epilepsy in patients with hippocampal sclerosis. P. E. SAUCEDO-ALVARADO*; F. J. VELASCO; A. VELASCO; M. A. AVILA-RODRIGUEZ; A. AVENDAÑO-ESTRADA; M. CUELLAR-HERRERA; R. MARQUEZ-FRANCO. *UNAM, Hosp. Gen. de Mexico, UAG.*

4:00 B83 **371.08** Changes of the electrical activity of the thalamic reticular nucleus by the electric stimulation. V. M. MAGDALENO-MADRIGAL*; J. VALERIO-MUÑOZ; M. I. ORTIZ-ZARATE; G. CONTRERAS-MURILLO; S. ALMAZÁN-ALVARADO. *Inst. Nacional De Psiquiatría Ramón De La Fuente Muñiz, Inst. Nacional de Psiquiatría Ramón de la Fuente Muñiz.*

1:00 B84 **371.09** Focal suppression of epileptiform activity in the hippocampus by a time-varying magnetic field. H. YE; V. CHEN; J. HELON; N. APOSTOLOPOULOS. *Loyola Univ. Chicago.*

2:00 B85 **371.10** ● Closed-loop implementation of intersectional short-pulse (ISP) stimulation to stop temporal lobe seizures. M. HARANGOZO; T. FOLDI; G. KOZAK; A. J. NAGY; T. GYURKOVICS; M. VOROSLAKOS; A. BERENYI*. *Univ. of Szeged.*

3:00 B86 **371.11** Dynamic volume changes of the brain's extracellular space as a target for eliminating epileptiform seizure activity. R. COLBOURN; J. H. GOODMAN; S. HRABETOVA*. *Sch. of Grad. Studies, SUNY Downstate Med. Ctr., Dept. of Cell Biology, SUNY Downstate Med. Ctr., Inst. for Basic Res. in Developmental Disabilities, Dept. of Physiol. and Pharmacol. SUNY Downstate Med. Ctr.*

4:00 B87 **371.12** Transcriptomic alterations following early life hypoxia-induced seizures and anti-seizure drug exposure. S. M. M. QUINLAN*; P. A. FORCELLI. *Georgetown Univ.*

1:00 B88 **371.13** ● Deciphering the neuroprotective mechanism of ayurvedic formulations using mouse model of epilepsy. B. VERMA*; P. SINHA; S. GANESH. *Indian Inst. of Technol. Kanpur, Kalyanpur.*

2:00 B89 **371.14** Drug repositioning in epilepsy using the zebrafish model system. M. STURGEON*; L. BRUEGGEMAN; R. MARTIN; A. GROSSBACH; Y. NAGAHAMA; A. ZHANG; M. HOWARD, III; H. KAWASAKI; S. WU; R. CORNELL; J. MICHAELSON; A. BASSUK. *Univ. of Iowa, Univ. of Iowa, Univ. of Washington.*

3:00 B90 **371.15** Evaluating in-hospital care for the treatment of nerve agent-induced status epilepticus in rats. J. E. MORGAN; S. C. WILSON; J. M. COPPOLA; C. JACKSON PIERCY; H. M. BELSKI; K. A. HUNDERTMARK; S. T. MILLS; M. R. EISEN; D. L. NGUYEN; H. S. MCCARREN*. *US Army Med. Res. Inst. of Chem. Def.*

POSTER

372. Glia-Neuron Interactions in Diseased Brain

Theme B – Neural Excitability/ Synapses/ and Glia

Mon. 1:00 PM – *McCormick Place, Hall A*

1:00 B91 **372.01** The direct contact of astrocytes to neuron is critical for lowering excitatory synaptic transmission after the exposure of amyloid β-protein 25-35 onto astrocytes. K. OYABU*; H. KIYOTA; K. KUBOTA; T. WATANABE; S. KATSURABAYASHI; K. IWASAKI. *Fukuoka Univ., Collaborative Res. Inst. for Aging and Brain Sci.*

2:00 B92 **372.02** Neuron-derived estrogen is critical for neuroprotective astrocyte activation after ischemic injury to the brain. Y. LU*; G. R. SAREDDY; J. WANG; Q. ZHANG; F. TANG; U. PRATAP; R. K. VADLAMUDI; D. W. BRANN. *Augusta Univ., Univ. of Texas Hlth. Sci. Ctr.*

3:00 B93 **372.03** Disruption in the formation of tripartite synapses by reactive astrocytes is responsible for the learning and memory impairments in Alzheimer's disease. M. CHOI*; H. KIM; E. YANG; H. KIM. *Seoul Natl. Univ., Seoul Natl. Univ., Seoul Natl. Univ. Col. Med.*

4:00 B94 **372.04** Phosphatidylserine recognition and rac activation link proliferation, gliosis and phagocytic activity of muller glia in the rat retinal injury model. K. KOMOIKE*; H. FUJIEDA. *Tokyo Women's Med. Univ.*

1:00 B95 **372.05** Synaptic and glial cell responses to neuroinflammation in spinal organotypic slices. G. PANATTONI*; V. GIACCO; C. BALLERINI; L. BALLERINI. *SISSA-ISAS, SISSA-ISAS Trieste, Univ. di Firenze, SISSA-ISAS.*

2:00 B96 **372.06** Calcitonin gene-related peptide (CGRP) influences cortical spreading depolarization (CSD) in adult rats - Could this be important in brain pathophysiology? F. GIMENO-FERRER; F. RICHTER; R. BAUER; A. LEHMENKUHLER*; H. SCHAIBLE. *Univ. Hosp. Jena, Univ. Hosp. Jena, Pain Inst.*

3:00 B97 **372.07** The effect of a high fat diet on endocannabinoid-mediated astrocyte-neuron signaling in the arcuate nucleus. A. K. SCOTT*; C. D. MURAT; P. KOFUJI; A. ARAQUE. *Univ. of Minnesota, Univ. of São Paulo.*

4:00 B98 **372.08** Glial cells induced restructuring of corpus callosum and pattern of constancy in fractional anisotropy in high-grade glioma. V. PAREEK*; P. K. ROY. *Natl. Brain Res. Ctr., Natl. Brain Res. Ctr.*

1:00 B99 **372.09** Excitatory amino acid transporters (EAATs) and presynaptic afferent metabotropic glutamate Receptors (mGluRs) differentially limit synaptic currents via control of presynaptic calcium and extracellular glutamate kinetics in normoxia and chronic intermittent hypoxia (CIH). D. MARTINEZ*; G. E. HERMANN; E. M. HASSER; R. C. ROGERS; D. D. KLINE. *Univ. of Missouri, Pennington Biomed. Res. Ctr., Univ. Missouri-Columbia, Univ. Missouri.*

2:00 B100 **372.10** Impact of a TREM2 variant on neuronal pathology in a mouse model of tauopathy. V. JADHAV*; G. XU; S. PUNTAMBEKAR; S. BISSEL; P. LIN; S. PHILTJENS; M. MOUTINHO; A. OBLAK; B. T. LAMB. *Indiana Univ. Sch. of Med., Stark Neurosciences Res. Inst., Indiana Univ. Sch. of M, Indiana Univ. Sch. of M, Indiana Univ. Sch. of Med.*

3:00 B101 **372.11** Signaling through the C3a receptor modulates peri-infarct reactive gliosis after ischemic stroke. A. STOKOWSKA; Y. LI; J. MORAN SUAREZ; M. PEKNY; M. PEKNA*. *Sahlgrenska Acad. at the Univ. of Gothenburg, Sahlgrenska Acad. at the Univ. of Gothenburg.*

• Indicated a real or perceived conflict of interest, see page 150 for details.
▲ Indicates a high school or undergraduate student presenter.
* Indicates abstract's submitting author

4:00 B102 **372.12** Actomyosin inhibition in astrocytes leads to cytoskeleton remodeling and to an enhanced neuronal regenerative profile. S. C. LEITE*; R. SANTOS; A. MEI; M. C. MARCHETTO; F. H. GAGE; Z. LENKEI. *Inst. of Psychiatry and Neurosci. of Paris, Inserm U1266, Inst. of Psychiatry and Neurosciences of Paris, Inserm U1266, The Salk Inst. of Biol. Studies.*

1:00 C1 **372.13** Lipolysaccharide attenuates NMDAR dependent LTD in the nucleus accumbens. B. C. COLEMAN*; D. KASHIMA; B. GRUETER. *Vanderbilt Univ.*

2:00 C2 **372.14** ▲ The role of axons in glioblastoma migration. G. VELEZMORO JAUREGUI*; V. M. POZO DEVOTO; M. NOVAKOVÁ; M. FEOLE; V. LACOVICH; G. B. STOKIN. *FNUSA-ICRC.*

3:00 C3 **372.15** The reduction of astrocytic Epm2a induces GLT1 process withdrawal accompanied by neuronal damage in a neuron-glia mixed culture system. C. HUNG*; S. HSU; Y. LEE. *Natl. Yang-Ming Univ., Natl. Yang-Ming Univ.*

4:00 C4 **372.16** Repeated morphine or fentanyl administration in rats induces glial and neuronal NLRP3 inflammasome activation on the dorsal raphe nucleus. C. J. CARRANZA-AGUILAR*; C. GONZÁLEZ-ESPINOSA; S. L. CRUZ. *Ctr. de Investigación y de Estudios Avanzados del IPN.*

1:00 C5 **372.17** Crosstalk between stressed brain-cells: Direct and indirect effects of ischemia and aglycemia in microglia. M. RABENSTEIN*; S. U. VAY; S. BLASCHKE; H. L. WALTER; A. LADWIG; G. R. FINK; M. SCHROETER; M. A. RUEGER. *Univ. of Cologne, Univ. of Cologne, Res. Ctr. Jülich.*

2:00 C6 **372.18** The effects of adolescent intermittent ethanol exposure on astrocyte-synaptic coupling and contact mediated signaling. C. D. WALKER*; H. G. SEXTON; M. RISHER. *Joan C. Edwards Sch. of Medicine, Marshall Univ., Huntington Veteran Affairs Med. Ctr., Duke Univ. Med. Ctr.*

3:00 C7 **372.19** ▲ An analysis of hippocampal microglia and astrocytes in a rat model with features of delirium reveals possible mechanisms behind memory dysfunction. L. G. RODRIGUES*; N. SALLA; A. S. ARNOLD; J. WEIR; S. L. PATTERSON. *Temple Univ., Temple Univ., Temple Univ.*

4:00 C8 **372.20** Pyruvate dehydrogenase kinase governs hypothalamic inflammation in mouse models of diabetes and obesity. M. H. RAHMAN*; A. BHUSAL; J. KIM; M. K. JHA; Y. GO; I. JANG; I. LEE; K. SUK. *Sch. of Medicine, Kyungpook Natl. Univ., Johns Hopkins Univ., Korean Med. Application Center, Korea Inst. of Oriental Med., Brain Sci. and Engin. Institute, Kyungpook Natl. Univ., Sch. of Dentistry, Kyungpook Natl. Univ., Div. of Endrocrinol. and Metabolism, Sch. of Medicine, Kyungpook Natl. Univ.*

1:00 C9 **372.21** Are astrocytes the stars controlling orofacial cortical neuroplasticity? L. AVIVI-ARBER*. *Univ. of Toronto Dent.*

2:00 C10 **372.22** Human astrocytoma line 1321N1 spontaneously drives SH-SY5Y neuronal differentiation in the absence of traditional differentiation factors in coculture. A. F. HOFFMAN; P. NUTHULAGANTI; A. S. GOETZ; J. C. CLEMENS*. *GlaxoSmithKline.*

3:00 C11 **372.23** Inhibition of IDO1 metabolically reprograms the neuronal milieu to rescue energetic and cognitive deficits in Alzheimer's disease. P. S. MINHAS*; A. L. HERNANDEZ; M. MCREYNOLDS; L. LIU; E. GAUBA; S. D. MHATRE; J. RABINOWITZ; F. LONGO; K. ANDREASSON. *Stanford Univ., Princeton Univ., NASA.*

POSTER

373. Microglial Activation in Disease States

Theme B – Neural Excitability/ Synapses/ and Glia

Mon. 1:00 PM – *McCormick Place, Hall A*

1:00 C12 **373.01** Xenotransplantation of human PSC derived microglia creates a chimeric mouse brian model that recapitulates features of human adult microglia. R. XU*; P. JIANG. *Rutger Univ.*

2:00 C13 **373.02** P2X7 receptor-mediated reactivation of retinal microglia in a mouse chronic ocular hypertension model. X. HU*; G. ZHAO; N. YIN; F. LI; Y. MIAO; X. YANG; Z. WANG. *Inst. of Brain Science, State Key Lab. of Med. Neurobio. and MOE Frontiers Ctr. for Brain Science, Fudan Univ.*

3:00 C14 **373.03** Gene-wide screen and validation of micriglia pro-inflammatory mediators in stroke. Y. YI*; Y. LU. *The Inst. for Brain Research, Collaborative in, Huazhong Univ. of Sci. and Technol.*

4:00 C15 **373.04** Microglial networks in response to exogenously delivered particles in the brain. A. OGAKI*; Y. IKEGAYA; R. KOYAMA. *Grad. Sch. of Pharmaceut. Sciences, The Univ. of Tokyo, Tokyo, Japan.*

1:00 C16 **373.05** Dual effect of microglia on blood brain barrier permeability induced by systemic inflammation. K. HARUWAKA*; A. IKEGAMI; Y. TACHIBANA; N. OHNO; A. HASHIMOTO; D. KATO; R. ONO; A. J. MOORHOUSE; J. NABEKURA; H. WAKE. *Kobe Univ. Grad. Sch. of Med., Natl. Inst. For Physiol Sci., Jichi Med. University, Sch. of Med., UNSW Australia.*

2:00 C17 **373.06** Dreadded microglia in ethanol-induced neuroimmune signaling and epigenetic modification. J. Y. ZOU*; L. G. COLEMAN; F. T. CREWS. *Univ. North Carolina, Chapel Hill.*

3:00 C18 **373.07** Microglia collect maternally delivered exogenous nanoparticles in the postnatal brain. R. KONO*; Y. IKEGAYA; R. KOYAMA. *The Univ. of Tokyo.*

4:00 C19 **373.08** Chemokine production by microglia mediates blood derived-monocytes trafficking in neuroinflammation. M. HUANG; J. KIM; J. PARK; W. LEE; J. LEE*. *Dept. of Anatomy, Yonsei Univ. Col. of Med., BK21 Plus Project for Med. Science, Yonsei Univ. Col. of Med., Brain Res. Institute, Yonsei Univ. Col. of Med.*

1:00 C20 **373.09** Targeting neuregulin-mediated microglial activation in Alzheimer's disease. F. SONG*; J. LIU; S. SCHRAM; S. MARTIN; J. A. LOEB. *Univ. of Illinois at Chicago.*

2:00 C21 **373.10** Optogenetic manipulation of microglia inhibits fundamental response properties. L. LAPRELL*; T. G. OERTNER. *Ctr. for Mol. Neurobio.*

3:00 C22 **373.11** Restraint stress suppresses microglia activation and production of pro-inflammatory cytokines. Z. YU*; M. SAKAI; Y. TAKAHASHI; C. ONO; H. TOMITA. *Tohoku Univ., Grad. Sch. of Med. ,tohoku Univ., Tohoku Univ., Tohoku Univ.*

4:00 C23 **373.12** Increased CD68 microglia/macrophages after transientmiddle cerebral artery occlusion in the rhesus monkey. H. YEO*. *Korea Res. Inst. of Biosci. & Biotechno.*

• Indicated a real or perceived conflict of interest, see page 150 for details.
▲ Indicates a high school or undergraduate student presenter.
* Indicates abstract's submitting author

1:00 C24 **373.13** Effects of α7 nicotinic receptor positive allosteric modulator PNU120596 on expression of PPAR-α and NF-κB following LPS-induced depressive-like behavior in mice. S. RAHMAN*; S. ALZAREA. *South Dakota State Univ., South Dakota State Univ.*

2:00 C25 **373.14** Disruption of microglial Stat3 signaling during early postnatal development has long-lasting effects on synaptic plasticity and social behaviors. H. C. LU; B. BARTH; S. KIM; K. KONGANTI; J. CAI; W. H. GRIFFITH; J. LI*. *Texas A&M Univ.*

3:00 C26 **373.15** Acute effects of α7nAChR agonists on pro-inflammatory cytokine release in primary microglia. M. E. HAMMARLUND*; S. HUA; F. ALBABILY; M. E. JOHANSSON. *Univ. of Gothenburg.*

4:00 C27 **373.16** Increased number and altered morphology of hippocampal microglia in a female rat model of alcohol use disorder. J. K. MELBOURNE*; H. PENG; C. ANASOOYA SHAJI; K. NIXON. *Univ. of Texas at Austin, Univ. of Kentucky, The Univ. of Texas at Austin.*

1:00 C28 **373.17** Single prolonged stress increases hippocampal inflammation and produces PTSD-related behaviors in rats. O. I. TORRES-RODRÍGUEZ*; Y. RIVERA-ESCOBALES; M. COLÓN-ROMERO; B. VELAZQUEZ-PEREZ; A. HERNANDEZ; J. T. PORTER. *Ponce Hlth. Sci. Univ.*

2:00 C29 **373.18** Increased amperage in electroconvulsive shock decreases microglia branch order. E. A. AQUINO*; R. M. HINES; D. J. HINES. *Univ. of Nevada Las Vegas.*

3:00 C30 **373.19** Persistent markers of neuroinflammation in Zika virus post infection stage of adult rhesus macaque. K. M. SMITH*; M. JACKSON; C. FONTENOT; E. L. V. SILVEIRA; K. A. ROGERS; M. M. TEIXEIRA; F. VILLINGER. *Univ. of Louisiana At Lafayette, Univ. of Louisiana At Lafayette, Univ. of Louisiana at Lafayette, Sch. of Pharmaceut. Sciences, Univ. of Sao Pablo, New Iberia Res. Center, Univ. of Louisiana at Lafayette, Federal Univ. of Minas Gerais, New Iberia Res. Center, UL Lafayette.*

4:00 C31 **373.20** ● Modeling neuroinflammation using iPSC-derived engineered microglia. B. C. FREITAS*; M. MCLACHLAN; S. J. DICKERSON; C. A. MUNN; S. A. BURTON; A. MUSINSKY; M. GOEDLAND; D. RAJESH; S. HILCOVE; E. JONES. *FUJIFILM Cell. Dynamics, Inc.*

1:00 C32 **373.21** Microglia specific knockout of TLR4-mediated resiliency to chronic stress induced vulnerability to depression and anxiety phenotype. U. H. IQBAL*; T. FROLINGER; S. WESTFALL; G. PASINETTI. *Ichan Sch. of Med. At Mount Sinai.*

2:00 C33 **373.22** *Ex vivo* examination of microglial proliferation patterns following a direct lesion to the olfactory bulb of the adult zebrafish brain. S. R. VAR*; C. A. BYRD-JACOBS. *Western Michigan Univ.*

3:00 C34 **373.23** Examination of the injury response to chemical ablation in the zebrafish olfactory epithelium. M. M. ALI*; C. A. BYRD-JACOBS. *Western Michigan Univ.*

4:00 C35 **373.24** Targeting microglial Gi DREADD for the inhibition of chronic pain. M. YI*; Y. LIU; K. LIU; T. CHEN; D. BOSCO; J. ZHENG; M. XIE; L. WU. *Mayo Clin., Rutgers University, Robert Wood Johnson Med. Sch., Mayo Clin., Mayo Clin.*

1:00 C36 **373.25** TREM2 regulate microglia response to TDP43 pathology related neurodegeneration. M. XIE*; Y. LIU; M. P. MATTSON; L. WU. *Mayo Clin., Natl. Inst. on Aging Intramural Res. Program.*

2:00 C37 **373.26** Microglia-astrocyte interaction drives neuromyelitis optica evolution. T. C. CHEN*; L. VANDA; Y. LIU; B. DALE; Y. LI; M. YI; J. ZHU; L. WU. *Mayo Clin.*

3:00 C38 **373.27** Neuronal network activity controls microglial process surveillance in awake mice via norepinephrine signaling. Y. LIU*; Y. LI; U. B. EYO; T. CHEN; A. D. UMPIERRE; J. ZHU; D. B. BOSCO; L. WU. *Mayo Clin.*

4:00 C39 **373.28** Microglial modulation of hippocampal neurogenesis after global cerebral ischemia. A. ISAKHAROV*; C. BUTLER; W. ZHU; E. SCHNELL; I. KOERNER. *OHSU Dept of Anesthesiol. and Perioperative Medi.*

POSTER

374. Aging: Molecular Mechanisms II

Theme C – Neurodegenerative Disorders and Injury

Mon. 1:00 PM – *McCormick Place, Hall A*

1:00 C40 **374.01** Insulin and brain aging: Increasing signaling without the ligand to offset cognitive decline with aging. K. L. ANDERSON*; H. N. FRAZIER; R. LIN; A. O. GHOWERI; G. J. POPA; M. D. MENDENHALL; O. THIBAULT. *Univ. of Kentucky.*

2:00 C41 **374.02** *In vivo* measurements of cerebral blood flow and neuronal calcium in the F344 model of aging treated acutely with intranasal insulin. R. LIN*; H. N. FRAZIER; A. O. GHOWERI; K. L. ANDERSON; O. THIBAULT. *Univ. of Kentucky Med. Ctr.*

3:00 C42 **374.03** Increasing insulin receptor signaling enhances glucose metabolism and elevates glucose-transporter 3 expression in primary hippocampal neurons. H. N. FRAZIER*; A. O. GHOWERI; K. L. ANDERSON; R. LIN; G. J. POPA; M. D. MENDENHALL; R. J. CRAVEN; O. THIBAULT. *Univ. of Kentucky, Univ. of Kentucky.*

4:00 C43 **374.04** Activated integrated stress response in obese diabetic mice may cause impairment of adult hippocampal neurogenesis and episodic-like memory. K. NAKAGAWA; S. ISLAM; M. UEDA; T. NAKAGAWA*. *Gifu Univ. Grad Sch. of Med., BCSIR Labs. Chittagong, 1nst. for Developmental Res.*

1:00 C44 **374.05** Long-term high-fat diet changes DNA methylation resulting in pro-neurodegenerative gene changes in the dorsal hippocampus. D. M. OSBORNE*; J. W. VANDER VELDEN. *Legacy Res. Inst., Georgia State Univ.*

2:00 C45 **374.06** ● Human plasma fractions as therapeutics to enhance cognitive function in aging by multiple modes of action. D. D. LUU*; I. GALLAGER; E. CZIRR; M. K. CAMPBELL; S. MINAMI; V. KHEIFETS; S. P. BRAITHWAITE; N. HUBER. *Alkahest.*

3:00 C46 **374.07** ● Transcriptomic characterization of therapeutic plasma fraction on mechanisms of neural progenitor self-renewal. A. L. NGUYEN*; N. HUBER; D. LUU; S. LOHR; V. KHEIFETS; S. BRAITHWAITE; D. P. LEONE. *Alkahest.*

4:00 C47 **374.08** Estrogen regulation of miR-9-5p subcellular localization in neurons. C. K. KIM*; T. R. PAK. *Loyola Univ. Chicago, Loyola Univ. Chicago Stritch Sch. of Med.*

• Indicated a real or perceived conflict of interest, see page 150 for details.
▲ Indicates a high school or undergraduate student presenter.
* Indicates abstract's submitting author

1:00 C48 **374.09** Phosphorylation and functional implications of estrogen receptor beta in the aging female brain. M. ZHANG; C. K. KIM; S. FLURY; T. R. PAK*. *Loyola Univ. Chicago Stritch Sch. of Med.*

2:00 C49 **374.10** Vitamin B1 deficiency induces hippocampal dependent memory impairments via hippocampal degeneration and down-regulation of CREB signaling. R. TSUJI*; T. KISHIMOTO; K. NAGATA; T. WATANABE; S. KIDA. *Tokyo Univ. of Agr., The Univ. of Tokyo.*

3:00 C50 **374.11** The role of gut microbiome in age associated cognitive impairment. J. BEHERA; J. ISON; K. KELLY; N. TYAGI*. *Univ. of Louisville.*

4:00 C51 **374.12** Adipocyte-derived exosomal microRNAs from cerebrospinal fluid are associated with downregulation of IL-8 and IL-6 pathways in aged animals. L. R. CECHINEL*; M. GOLDBERG; B. HARMON; R. FREISHTAT; I. SIQUEIRA. *Univ. Federal Do Rio Grande Do Sul, Children's Natl. Hlth. Syst.*

1:00 C52 **374.13** Chronic short sleep initiates gender-dependent limbic system neurodegeneration. J. E. OWEN*; Y. ZHU; P. FENIK; K. SHULMAN; S. VEASEY. *Univ. of Pennsylvania.*

2:00 C53 **374.14** Aging of the blood-CNS barriers. M. J. CUMMINS*; E. T. CRESSWELL; D. W. SMITH. *Ctr. for Brain and Mental Hlth. Research, Sch. of Biomed. Sci. and Pharmacy, Fac. of Hlth. and Medicine, Univ. of Newcastle, Hunter Med. Res. Inst.*

3:00 C54 **374.15** Endothelial senescence mediated by $p16^{INK4a}$ leads to cerebrovascular dysfunction in mouse brains. T. AIKAWA*; Y. CHEN; I. VETELENAU; H. OUE; M. HOLM; B. Y. S. KIM; T. KANEKIYO. *Mayo Clin., Univ. of Texas.*

4:00 C55 **374.16** Single cell analysis of aged brain vasculature reveals capillary endothelium as locus of neurodegeneration implicated gene changes and therapeutic target. Z. LI*; L. ZHAO; J. S. VONG; L. YAN; H. LAI; X. CHEN; K. SY; X. TIAN; Y. HUANG; E. CHAN; W. CHIU; Y. LO; H. SO; C. MOK; H. KO. *The Chinese Univ. of Hong Kong, The Chinese Univ. of Hong Kong, The Chinese Univ. of Hong Kong, The Chinese Univ. of Hong Kong, The Chinese Univ. of Hong Kong.*

1:00 C56 **374.17** Neurochemical properties of the mediobasal hypothalamic neurons during ageing. P. M. MASLIUKOV*; K. MOISEEV; V. PORSEVA; A. EMANUILOV; M. KORZINA. *Yaroslavl State Med. Univ., Petrozavodsk State Univ.*

POSTER

375. Alzheimer's Disease: APOE and Associated Pathways

Theme C – Neurodegenerative Disorders and Injury

Mon. 1:00 PM – *McCormick Place, Hall A*

1:00 C57 **375.01** Elucidating the cell specific roles of apolipoprotein E in Alzheimer's disease. R. J. JACKSON*; J. C. MELTZER; H. N. NGUYEN; B. T. HYMAN; E. HUDRY. *Massachusetts Gen. Hosp. Inst. for Neurodegenerative Dis., Massachusetts Gen. Hosp., MGH.*

2:00 C58 **375.02** Neuroinflammatory effects of apolipoprotein E4 in the brain. J. M. IANNUCCI*; A. SEN; M. MAJCHRZAK; W. RENEHAN; P. GRAMMAS. *Univ. of Rhode Island, Univ. of Rhode Island.*

3:00 C59 **375.03** Apolipoprotein E isoform impact on the neuroinflammatory state of the human Alzheimer's disease brain. C. M. KLOSKE*; A. DUGAN; A. WOOLUMS; T. L. SUDDUTH; S. ANDERSON; E. PATEL; E. L. ABNER; P. T. NELSON; D. FARDO; D. M. WILCOCK. *Univ. of Kentucky, Sanders-Brown Ctr. on Aging.*

4:00 C60 **375.04** APOE4 induces region-specific neuronal dysfunction in the entorhinal cortex of APOE target replacement mice. H. A. ARAIN*; H. Y. FIGUEROA; E. AREA-GOMEZ; K. E. DUFF; T. NURIEL. *Columbia Univ. Med. Ctr., Columbia Univ. Med. Ctr.*

1:00 C61 **375.05** The effects of high fat diet on metabolism and cognition in APOE mice. N. JONES*; G. W. REBECK. *Georgetown Univ., Georgetown Univ.*

2:00 C62 **375.06** Western diet affects the level of brain exosomes in an APOE-genotype dependent manner in mice. L. RACHMANY*; S. F. NEWBURY; S. BHAMDEO; B. S. EAST; G. M. FLEMING; K. Y. PENG; D. A. WILSON; E. LEVY; P. M. MATHEWS. *Nathan S. Kline Inst., New York Univ. Langone Hlth., Nathan S. Kline Inst., Nathan S. Kline Inst., New York Univ. Langone Hlth., Nathan S. Kline Inst., New York Univ. Langone Hlth., Nathan S Kline Inst.*

3:00 C63 **375.07** Cholesterol regulates exosome release in cultured astrocytes. M. ABDULLAH*; T. FERDOUS; M. MICHIKAWA*. *Nagoya City Univ.*

4:00 C64 **375.08** Investigating the contribution of astrocytic cholesterol transport in neuronal amyloid beta generation using human-induced pluripotent stem cells. W. JEONG*; H. LEE; J. SEO. *DGIST.*

1:00 C65 **375.09** Differential effects of astrocyte and microglia apolipoprotein E production on the development of amyloid-beta pathology. T. E. MAHAN*; J. D. ULRICH; T. V. HUYNH; N. SCOTT; J. REMOLINA SERRANO; R. E. TANZI; D. M. HOLTZMAN. *Washington Univ. in St. Louis, Massachusetts Gen Hosp, Harvard Med. Sch.*

2:00 C66 **375.10** ▲ The plasma lipoprotein profile in a novel transgenic mouse model is modulated by Alzheimer's disease (AD) risk factors: Potential as an AD biomarker. B. XIANG; K. PANCHAPAKESAN; Y. SALEH; S. CORONEL; N. FAULK; J. E. MALDONADO WENG; J. M. YORK; A. C. VALENCIA; M. LADU*; A. J. KARSTENS. *Univ. of Illinois, Chicago, Univ. of Illinois, Chicago.*

1:00 DP06/C67 **375.11** (Dynamic Poster) Phosphorylation and cytoplasmic translocation of TDP-43 in response to a neurotoxic fragment of apolipoprotein E4 (ApoE4): A mechanism that may underlie loss of cognition in Alzheimer's disease and Alzheimer's disease related dementias (ADRD). P. MCDONOUGH*; K. L. GORDON; R. C. B. BASA; S. RAMESH; C. HANDLEY; T. T. ROHN; A. WARD; J. WANG; J. H. PRICE. *Vala Sci. Inc, Boise State Univ., Allele Biotech., Scintillon Inst.*

4:00 C68 **375.12** Lipid peroxidation product 4-hydroxynonenal alters tertiary conformation and fold of apolipoprotein E in an isoform dependent manner. M. ABEER*; S. CRUZ; V. TRAN; V. NARAYANASWAMI. *California State Univ. Long Beach.*

1:00 C69 **375.13** The role of pericytes and blood-brain barrier in regulation of soluble tau clearance from brain. A. P. SAGARE*; A. ARMENDARIZ; E. J. LAWSON; A. NELSON; B. V. ZLOKOVIC. *USC.*

2:00 C70 **375.14** Vascular specific expression of apoE4 enhances CAA pathology and promotes cerebrovascular damages. C. LIU*; Y. YAMAZAKI; Y. A. MARTENS; A. YAMAZAKI; Y. CHEN; L. JIA; C. M. LINARES; J. KNIGHT; B. KIM; G. BU. *Mayo Clin.*

• Indicated a real or perceived conflict of interest, see page 150 for details.
▲ Indicates a high school or undergraduate student presenter.
* Indicates abstract's submitting author

3:00 C71 **375.15** Preventing cerebrovascular decline in $APOE^{E4}$ mice. K. FOLEY*; L. GRAHAM; S. YANG; G. HOWELL. *The Jackson Lab., Tufts Univ.*

4:00 C72 **375.16** APOE4 predisposes to cancer chemotherapy-induced cognitive impairment in a mouse model. G. W. REBECK*; T. C. DEMBY; O. C. RODRIGUEZ; Y. LEE; C. ALBANESE; J. S. MANDELBLATT. *Georgetown Univ., Georgetown Univ., Georgetown Univ., Georgetown Univ.*

1:00 C73 **375.17** Oxidative stress responsive kinase signaling and its accompanied insulin resistance precede overt AD pathology. W. SHEN*; S. CAO; W. LUO; P. YANG. *Univ. Maryland Sch. Med.*

2:00 C74 **375.18** ▲ Understanding Alzheimer's disease risk: Early behavioral changes and physiological biomarkers associated with the human APOE4 allele in a knock-in rat model. L. BLACKMER-RAYNOLDS; L. AUGUSTIN; J. PARK; A. DOAK; M. J. GLENN*. *Colby Col.*

3:00 C75 **375.19** Lentiviral vectors for expressing human amyloid precursor protein or apolipoprotein E gene variants associated with increased risk of Alzheimer's disease. A. MORRIS; P. ZALAMEA; M. R. SWERDEL; R. P. HART*. *Rutgers Univ., Rutgers Univ.*

4:00 C76 **375.20** The role of apoE isoforms in Alzheimer's disease-related neuropathology in isogenic human neuronal cells. S. O. ADEOSUN; X. CHEN; R. ALKAWAS; L. SHI; E. WICKS; B. ZHENG; T. MOSLEY; Y. MO; J. WANG*. *Univ. of Mississippi Med. Ctr., Univ. Mississippi Med. Ctr., Univ. of Mississippi Med. Ctr.*

1:00 C77 **375.21** Epigenetic regulation of apolipoprotein E by sphingosine-1-phosphate signaling. N. TAKASUGI*; M. KOMAI; N. KANESHIRO; T. UEHARA. *Okayama University, Grad. Sch. of Medicine, Dentistry, and Pharmaceut. Sci.*

2:00 C78 **375.22** Endosomal pH drop ameliorates ApoE4-mediated synaptic impairments and reduces amyloid plaque load *in vivo.* T. POHLKAMP*; X. XIAN; M. DURAKOGLUGIL; C. H. WONG; F. PLATTNER; J. HERZ. *Univ. of Texas Southwestern Med. Ctr.*

3:00 C79 **375.23** ● Fragment-based discovery of an apolipoprotein E4 (apoE4) stabilizer. E. G. MOHLER*; A. V. KOREPANOVA; C. G. JAKOB; W. QIU; S. C. PANCHAL; J. WANG; J. D. DIETRICH; F. POHLKI; A. KLING; K. C. WILCOX; V. LAKICS; L. BAHNASSAWY; P. REINHARDT; S. KARUNAN PARTHA; P. BODELLE; M. R. LAKE; E. I. CHARYCH; V. S. STOLL; C. C. SUN; A. M. PETROS. *AbbVie, Abbvie Deutschland Gmbh and Co. KG, Abbvie Foundational Neurosci. Ctr.*

4:00 C80 **375.24** APOE4 and sex mediate microglial transcription profiles in an Alzheimer's disease mouse model and in patient induced pluripotent stem cells. V. A. MOSER*; S. SANCES; T. E. MORGAN; C. E. FINCH; M. LADU; C. J. PIKE; C. N. SVENDSEN. *Cedars-Sinai, Cedars-Sinai Med. Ctr., USC, Univ. of Illinois, Chicago, USC, Cedars-Sinai Med. Ctr.*

1:00 C81 **375.25** APOE genotype and sex affect TREM2-dependent microglial interactions with amyloid plaques in EFAD mice. T. STEPHEN; M. CACCIOTTOLO; D. BALU; T. E. MORGAN; M. LADU; C. E. FINCH; C. J. PIKE*. *USC, Univ. of Illinois, Chicago.*

2:00 C82 **375.26** Interaction among sex, APOE genotypes and TREM2 on primary mouse microglial functions. T. IIDA*; C. J. PIKE. *Leonard Davis Sch. of Gerontology, USC.*

3:00 C83 **375.27** Sex- and APOE genotype-associated differences in cortical thickness in heathy, middle-aged adults. K. N. LECLAIRE*; J. K. BLUJUS; I. DRISCOLL. *Univ. of Wisconsin-Milwaukee.*

4:00 C84 **375.28** Effects of APOE genotype and estrogen status on systemic and neural effects of acute immune challenge in female mice. J. LIU*; C. SAMPLE; C. J. PIKE. *USC.*

1:00 C85 **375.29** Metabolic and cognitive effects of obesity: Regulation by estradiol in female APOE3, APOE3/4 and APOE4 mice at early middle age. A. CHRISTENSEN*; C. J. PIKE. *USC, USC.*

POSTER

376. Alzheimer's Disease and Therapeutic Strategies II

Theme C – Neurodegenerative Disorders and Injury

Mon. 1:00 PM – *McCormick Place, Hall A*

1:00 C86 **376.01** Restoration of the autophagic flux by melatonin treatment in the early stages of tauopathy prevents cognitive decline. M. G. LOPEZ*; E. LUENGO; C. FERNÁNDEZ-MENDÍVIL; P. TRIGO-ALONSO; P. NEGREDO; B. HERNÁNDEZ-GARCÍA; S. LANTIGUA; E. DEL SASTRE-LÓPEZ; J. A. BERNAL; T. IKEZU; R. LEON; I. BUENDIA. *Univ. Autonoma de Madrid, Univ. Autónoma De Madrid, Hosp. la Paz, Ctr. Nacional de Investigaciones Cardiovasculares (CNIC), Boston Univ. Sch. of Med., Inst. de Investigación Sanitario (IIS-IP), Hosp. Universitario de la Princesa.*

2:00 C87 **376.02** CDPPB prevents neurotoxic effects induced by amyloid-beta 1-42 and improve neuropathological changes in app transgenic mice. P. M. Q. BELLOZI*; M. C. M. DA SILVA; G. F. GOMES; I. V. A. LIMA; C. R. A. BATISTA; W. O. C. JUNIOR; J. G. DORIA; T. WYSS-CORAY; F. M. RIBEIRO; A. C. P. DE OLIVEIRA. *Univ. Federal de Minas Gerais, Stanford Univ.*

3:00 C88 **376.03** Discovery of novel small molecule therapeutics for Alzheimer's disease by targeting steric zippers involved in tau aggregation. M. APOSTOL*; M. GRAF; A. LAY; M. SCHULTZE; J. SCHERRER; G. NAUMANN; A. P. WRIGHT; I. HERNANDEZ; G. LUNA; K. S. KOSIK; J. J. TREANOR. *Adrx, Inc., Univ. of California Santa Barbara.*

4:00 C89 **376.04** ● Role of plasminogen activator inhibitor-1 (PAI-1) in cerebrovascular morphometry and cognition in a mouse model of Alzheimer's disease. T. K. STEVENSON*; R. C. STEVENSON; E. J. SU; D. A. LAWRENCE; G. G. MURPHY. *Univ. of Michigan, Univ. of Michigan, Univ. of Michigan, Univ. Michigan, Univ. of Michigan.*

1:00 C90 **376.05** ● Targeting the Alzheimer's disease-associated risk gene, TREM2, with antisense oligonucleotides. K. M. SCHOCH*; R. N. BANNON; L. EZERSKIY; P. JAFAR-NEJAD; F. RIGO; T. M. MILLER. *Washington Univ. in St. Louis, Ionis Pharmaceuticals.*

2:00 C91 **376.06** Design and assessment of antiepileptic drug nanocarriers as a therapeutic strategy for pharmacoresistant seizures control. A. ROSILLO-DE LA TORRE*; F. ROMERO-ARGOTE; I. A. QUINTERO-ORTEGA; L. E. CASTELLANO-TORRES; J. DELGADO-GARCÍA. *Univ. of Guanajuato.*

• Indicated a real or perceived conflict of interest, see page 150 for details.
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* Indicates abstract's submitting author

3:00 C92 **376.07** ● Characterization of an HDAC corepressor complex inhibitor for the treatment of FTD-GRN. M. IVARSSON*; B. A. LYNCH; A. PIRONE; N. O. FULLER. *Rodin Therapeut.*

4:00 D1 **376.08** Carbachol-induced phosphorylation of glycogen synthase kinase 3 beta (GSK3beta) and extracellular signal-regulated kinase (ERK 1/2) in the telencephalon of adult zebrafish is mediated by muscarinic acetylcholine receptors. R. A. MANS*; G. POWERS. *Georgia Southern University-Armstrong Campus.*

1:00 D2 **376.09** Novel synthetic BDNF derived peptides protects dental pulp mesenchymal stem cells (DPSCs) against oxidative stress through the TrkB receptor. M. SILVA-LUCERO*; G. LOPEZ-TOLEDO; T. PADILLA; V. TORRES-ROJAS; L. ZHANG; M. CARDENAS-AGUAYO. *UNAM, Med. Sch., CINVESTAV, UnADM.*

2:00 D3 **376.10** ▲ Alendronate, an antiresorptive drug, confers neuroprotective effect against Alzheimer's disease like pathological changes in mice induced by high fat diet and aluminium trichloride plus D-galactose. S. ZAMEER*; D. VOHORA; J. ALI; M. AKHTAR. *Jamia Hamdard, Jamia Hamdard.*

3:00 D4 **376.11** An automated microliter-scale high-throughput screening system (MSHTS) using quantum-dot nanoprobes for amyloid aggregation inhibitors. R. SASAKI*; R. TAINAKA; Y. ANDO; M. KURAGANO; K. OTA; K. MONDE; K. UWAI; K. TOKURAKU. *Muroran Inst. of Technol., Showa Univ., Hokkaido Univ.*

4:00 D5 **376.12** Combined beneficial actions of gallic acid remediate Alzheimer pathology and restore cognition in mice. T. MORI*; N. KOYAMA; T. YOKOO; T. SEGAWA; M. MAEDA; D. SAWMILLER; J. TAN; T. TOWN. *Dept. of Biomed. Sciences, Saitama Med. Ctr. and Univ., Res. Ctr. for Genomic Medicine, Saitama Med. Univ., Immuno-Biological Labs. Co., Ltd., Rashid Lab. for Developmental Neurobiology, Silver Child Develop. Center, Dept. of Psychiatry and Behavioral Neurosciences, Morsani Col. of Medicine, Univ. of South Florida, Zilkha Neurogenetic Institute, Dept. of Physiol. and Neuroscience, Keck Sch. of Med. of the Univ. of Southern California.*

1:00 D6 **376.13** Effects of fluoxetine on the neurons and synapses in the hippocampus of early APP/PS1 transgenic AD mice. Y. TANG*; C. N. ZHOU; Y. ZHANG; L. JIANG; F. L. CHAO; L. ZHANG; J. MA. *Chongqing Med. Univ.*

2:00 D7 **376.14** ● ACAT inhibition in the cns as a therapeutic target for APOE4-induced Alzheimer's disease risk. A. C. VALENCIA*; N. FAULK; D. BALU; E. LOUKENAS; J. M. YORK; M. LADU. *Univ. of Illinois, Chicago.*

3:00 D8 **376.15** Neuroprotective role of Myo/Nog cells in a rat model of Alzheimer's disease. A. PAYNE*; S. JOSEPH-PAULINE; M. BRACCIA; G. GORSKI; R. BRAHMBHATT; S. YOUNG; J. GERHART; M. GEORGE-WEINSTEIN; J. STONE; S. PURUSHOTHUMAN; A. BRAVO-NUEVO. *PCOM, Univ. of Sydney.*

4:00 D9 **376.16** Role of protein prenylation in the pathogenesis of Alzheimer's disease. A. JEONG*; S. CHENG; W. QU; M. DISTEFANO; D. A. BENNETT; M. BERGÖ; L. LI. *Univ. of Minnesota-Twin Cities, Univ. of Minnesota-Twin Cities, Univ. of Minnesota-Twin Cities, Rush Alzheimer's Dis. Ctr., Rush Univ. Med. Ctr., Karolinska Institutet.*

1:00 D10 **376.17** Naringenin produces neuroameliorative effects and counteracts genotoxicity induced by $AlCl_3$ and D-gal in rat model of AD. S. HAIDER*; L. LIAQUAT. *Univ. of Karachi.*

2:00 D11 **376.18** Role of soluble epoxide hydrolase in Alzheimer's disease progression. H. HU*; T. LEE; H. LEE. *Natl. Yang-Ming Univ. and Academia Sinica, Natl. Taiwan Univ., Natl. Yang-Ming Univ., Taiwan Intl. Grad. Program in Mol. Med.*

3:00 D12 **376.19** Enhancing blood circulation to facilitate the efflux of amyloid β from the brain to peripheral blood circulation by xuefu zhuyu decoction. L. CHAO*; H. TSAY; Y. SKYE HSIN-HSIEN. *Insititute of Neuroscience, Natl. Yang Ming Uni, Brain Res. Center, Natl. Yang Ming Univ.*

4:00 D13 **376.20** ● Mechanism of gamma-secretase modulators. J. E. LUO*; C. W. ENDE; K. D. RYNEARSON; S. L. WAGNER; Y. LI. *Weill Grad. Sch. of Med. Sci. of Cornell Univ., Mem. Sloan Kettering Cancer Ctr., Pfizer Worldwide Res. and Develop., Univ. of California San Diego.*

1:00 D14 **376.21** Oral immunization with soybean storage protein ontaining Aß4-10. T. KAWARABAYASHI*; M. AMARI; M. TAKATAMA; M. SHOJI. *Geriatrics Res. Inst. Hosp., Geriatrics Res. Inst. Hosp.*

2:00 D15 **376.22** BACE1 inhibitions affect on astrocytic amyloid beta clearance. J. ZHOU*; R. YAN. *Cleveland Clin., Univ. of Connecticut Hlth. Ctr.*

POSTER

377. Alzheimer's Disease and Other Dementias: Therapeutic Strategies I

Theme C – Neurodegenerative Disorders and Injury

Mon. 1:00 PM – *McCormick Place, Hall A*

1:00 D16 **377.01** A novel mechanoceutics treatment strategy for Alzheimer's disease. H. TOBEY; T. LUCAS; D. BLEDSOE; M. J. MYKINS; S. PAUL; S. S. BERR; P. G. BROLINSON; B. G. KLEIN*; B. M. COSTA. *Edward Via Virginia Col. of Osteo. Med., Virginia Tech., Univ. of Virginia Sch. of Med., Virginia-Maryland Col. of Vet. Medicine, Virginia Tech.*

2:00 D17 **377.02** The effects of sex and APOE genotype on the gut microbiome in young EFAD transgenic mice. J. E. MALDONADO-WENG*; I. PARIKH; Z. ISLAM; S. CORONEL; A. NAQIB; J. M. YORK; S. J. GREEN; S. ESTUS; M. LADU. *Univ. of Illinois at Chicago, Univ. of Kentucky, Univ. of Illinois at Chicago.*

3:00 D18 **377.03** Reduction of amyloid pathology by probiotic supplementation in a mouse model of Alzheimer's disease. E. LEE*; J. LEE; J. JUNG; H. KIM; H. PARK; T. KIM. *Gwang-Ju Inst. of Sci. and Technol.*

4:00 D19 **377.04** Enriching enrichment: A novel 'enrichment track' protocol produces controllable and persistent cognitive enhancement in mice. H. A. COLLETT*; S. GATTAS; E. A. HUFF; S. D. CREIGHTON; S. E. WEBER; S. BUCKHALTER; S. A. MANNING; B. L. MCNAUGHTON; B. D. WINTERS. *Univ. of Guelph, Univ. of California, Irvine, Univ. of Guelph, The Univ. of Lethbridge.*

1:00 D20 **377.05** Beneficial effects of resistance exercise in improving cognitive functions and reducing neuropathology in postoperative cognitive dysfunctions and Alzheimer's transgenic mice. R. C. C. CHANG*; Y. LIU; J. M. T. CHU; C. HUANG; G. T. C. WONG. *Lab. of Neurodegenerative Diseases, Sch. of Biomed. Sciences, LKS Fac. of Medicine, The Univ. of Hong Kong, State Key Lab. Brain and Cognitive Sciences, The Univ. of Hong Kong, Dept. of Anaesthesiology, LKS Fac. of Medicine, The Univ. of Hong Kong.*

● Indicated a real or perceived conflict of interest, see page 150 for details.
▲ Indicates a high school or undergraduate student presenter.
* Indicates abstract's submitting author

2:00 D21 **377.06** Exercise mitigates cognitive dysfunction resulting from a graduate loss of ovarian function in an Alzheimer's disease mouse model. J. R. WILLIAMS; C. GRANT; S. S. VASHISTH; I. KOC; S. A. AHMAD; S. V. MAURER; C. A. COLTON; E. A. FINCH; C. L. WILLIAMS*. *Duke Univ., Duke Univ. Hosp., -.*

3:00 D22 **377.07** Altered dopamine neuron activity in the FAB rodent model of Alzheimer's disease. S. M. PEREZ*; A. M. BOLEY; D. J. LODGE. *UT Hlth. San Antonio, UTHSCSA.*

4:00 D23 **377.08** Mild uncoupling of astrocyte mitochondria as a strategy to alleviate spatial memory deficits in Alzheimer's disease. N. ROSENBERG; A. ROCHER; L. RESTIVO; M. BRIQUET; Y. BERNARDINELLI; J. CHATTON*. *Univ. of Lausanne, Neonomia.*

1:00 D24 **377.09** A study of the neural circuit mechanisms underlying the emotional symptoms associated with Alzheimer's disease. V. BANOV; Y. KOBAYASHI; R. ANDO; T. SAITO; T. SAIDO; S. ITOHARA; S. OGAWA; L. J. YOUNG; Q. ZHANG*. *RIKEN, Univ. of Tsukuba, Emory Univ. Sch. of Med.*

2:00 D25 **377.10** How to stimulate: Basal forebrain DBS parameters to restore the attentional performance of rats with cholinergic losses. M. NAZMUDDIN*; H. A. RAO; T. VAN LAAR; M. F. SARTER. *Univ. Med. Ctr. Groningen, Univ. of Groningen, Univ. of Michigan.*

3:00 D26 **377.11** Modulation of Alzheimer's neuropathology through peripheral circulation. W. LIU; D. A. HOTTMAN; A. GRAM; V. D. KRISHNA; M. C. CHEERAN; W. C. LOW; L. LI*. *Univ. of Minnesota, Univ. of Minnesota, Univ. of Minnesota.*

4:00 D27 **377.12** ● Learning the game of chess reduces age related cortical thinning in patients with mild cognitive impairment. J. STOUT*; T. MALONE; J. HEFFERNAN; T. MALMSTROM; P. RUPPERT; S. BROWN; R. BUCHOLZ; R. TAIT; G. HEADY; L. SCHWARZ. *Med. Col. of Wisconsin, St. Louis Univ., St. Louis Univ.*

1:00 D28 **377.13** The effects of deep brain stimulation of the cholinergic forebrain on markers of nerve growth factor and beta-amyloid. J. S. KUMRO*; J. SWORD; S. A. KIROV; A. PILLAI; D. T. BLAKE. *Med. Col. of Georgia at Augusta Univ., Med. Col. of Georgia at Augusta Univ.*

2:00 D29 **377.14** Feasibility of dynamic sleep enhancement in a mouse model of Alzheimer's disease. D. HUFFMAN; A. A. AJWAD; J. WANG; M. P. MURPHY; B. F. O'HARA; M. J. DUNCAN; S. SUNDERAM*. *Univ. of Kentucky, Univ. of Kentucky, Univ. Kentucky, Univ. of Kentucky Med. Sch.*

3:00 D30 **377.15** Assessment of the mechanisms of action of ethanolic extracts of bacopa floribunda and angraecum eichlerianum on amyloid beta (1-42) model of Alzheimer's disease in male Wistar rats. M. OMOTOLA OYELEKE*; O. L. AROKOYO; H. T. ONI; B. V. OWOYELE. *Afe Babalola Univ., Univ. of Ilorin.*

4:00 D31 **377.16** Development of NeuroD1-mediated *in vivo* neuroregeneration therapy in an Alzheimer's disease mouse model. X. HOU*; Y. WANG; Z. WU; F. ZHANG; Z. PEI; Y. BAI; G. CHEN. *Pennsylvania State Univ.*

1:00 D32 **377.17** Altered heme metabolism in Alzheimer's disease pathogenesis. L. ZHANG*; C. VIDAL; K. DAESCU; K. E. FITZGERALD; A. STAROKADOMSKA; I. BEZPROZVANNY. *Univ. of Texas at Dallas, Univ. of Texas Southwestern Med. Ctr., UT Southwestern Med. Ctr. Dallas.*

POSTER

378. Neurodegenerative Disorders and Injury II

Theme C – Neurodegenerative Disorders and Injury

Mon. 1:00 PM – *McCormick Place, Hall A*

1:00 D33 **378.01** Propagation of neurodegenerative protein in human aging. S. MURAYAMA*; Z. TANEI; T. MATSUBARA; R. SENGOKU; Y. SAITO. *Tokyo Metropolitan Geriatric Hosp. and Inst. of Gerontology, Natl. Ctr. Hosp. Neurol. & Psy.*

2:00 D34 **378.02** *In vivo* redox regulation of ∆FosB's structure-function relationship in Alzheimer's. H. LYNCH*; C. MCCORNACK; V. BALI; G. RUDENKO; E. J. NESTLER; A. ROBISON. *Michigan State Univ., Michigan State Univ., Univ. of Texas Med. Br., Icahn Sch. Med. At Mount Sinai, Michigan State Univ.*

3:00 D35 **378.03** Differential expression of PICALM in the cortex and hippocampus of Alzheimer's disease (AD). S. SARKAR*; Q. GU; J. RAYMICK; E. CUEVAS; H. ROSAS-HERNANDEZ. *Natl. Ctr. For Toxicological Research/Us FDA, FDA Natl. Ctr. for Toxicological Res., Natl. Ctr. for Toxicological Res., Natl. Ctr. For Toxicological Res.*

4:00 D36 **378.04** Linking gamma-secretase and glutamate homeostasis: Presenilin-1 and glutamate transporter GLT-1 interaction. L. C. ANDERSON*; M. MAESAKO; N. SEKULA; C. ZHANG; S. L. WAGNER; R. E. TANZI; O. BEREZOVSKA. *MGH-Harvard Med. Sch., Univ. of California San Diego, VA San Diego Healthcare Syst.*

1:00 D37 **378.05** Effect in weight, cogntion and serum glucose after the administration of intracerebroventricular streptozotocin injections during a 60 days period in CD1 mice. A model for sporadic Alzheimer's disease. C. G. ESTRADA-GOMEZ*; P. C. BELLO-MEDINA; S. DIAZ-CINTRA. *Inst. De Neurobiologia. UNAM.*

2:00 D38 **378.06** Characterizing Alzheimer's disease pathology and molecular signaling dysregulation in aged type 2 diabetic cynomolgus monkeys. H. M. JESTER*; S. GOSRANI; H. DING; M. KO; H. ZIMMERMANN; X. WANG; X. ZHOU; T. MA. *Wake Forest Univ. Sch. of Med., Wake Forest Univ. Sch. of Med., Wake Forest Univ. Sch. of Med.*

3:00 D39 **378.07** ● Full length APP regulates the size and cellular location of the axon initial segment with implications for Alzheimer's disease. F. MA*; K. HERRUP. *Hong Kong Univ. of Sci. and Technol.*

4:00 D40 **378.08** Neuronal DNA double strand breaks in the CK-p25 mouse model of severe neurodegeneration. G. M. WELCH*; J. D. CHENG; Q. SU; M. KELLIS; A. PFENNING; L. TSAI. *The Picower Inst. for Learning and Memory, MIT, Carnegie Mellon Univ.*

1:00 D41 **378.09** HCN channelopathy in the ventral hippocampus of Alzheimer's disease mouse models. A. ROGALSKY*; T. F. MUSIAL; E. MOLINA-CAMPOS; N. YBARRA; L. A. BEAN; Y. VOSKOBIYNYK; M. L. RUSSO; M. M. OH; R. J. VASSAR; J. F. DISTERHOFT; D. A. NICHOLSON. *Rush Univ. Med. Ctr., Northwestern Univ. Feinberg Sch. of Med.*

2:00 D42 **378.10** Single particle tracking of functional mutants of PERK to understand cell specific activation mechanism under stress. H. GUDLAVALLETI*; R. VISWANATHAN; B. STOVEKEN; D. HOLSTEIN; P. MOZOLEWSKI; R. DOBROWOLSKI; J. LECHLEITER. *Univ. of Texas Hlth. Sci. Ctr. At San Antonio.*

- ● Indicated a real or perceived conflict of interest, see page 150 for details.
- ▲ Indicates a high school or undergraduate student presenter.
- * Indicates abstract's submitting author

3:00 D43 **378.11** Using super-resolution microscopy to study the role of PERK in neurodegenerative disorders. R. VISWANATHAN*; H. GUDLAVALLETI; D. HOLSTEIN; B. STOVEKEN; P. MOZOLEWSKI; R. DOBROWOLSKI; J. LECHLEITER. *UT Hlth. San Antonio, UT Hlth. San Antonio, The Glenn Biggs Inst. for Alzheimer's and Neurodegenerative diseases, The Glenn Biggs Inst. for Alzheimer's and Neurodegenerative Dis.*

POSTER

379. Parkinson's Disease: Mitochondrial Mechanisms and Genetics

Theme C – Neurodegenerative Disorders and Injury

Mon. 1:00 PM – *McCormick Place, Hall A*

1:00 D44 **379.01** Role of parkin-mitofilin interaction in Parkinson's disease stressor-induced neuron death. A. IMAM ALIAGAN*; M. DARAEI AHWAZI; N. MADUNGWE; L. LIU; N. TOMBO; Y. FENG; J. C. BOPASSA. *Univ. of Texas Hlth.*

2:00 D45 **379.02** The adaptive defense mechanism associated with HFE genotype and its association with the vulnerability to paraquat-induced toxicity. I. SONG*; E. NEELY; A. SNYDER; S. LEE; J. CONNOR. *Penn State Col. of Med.*

3:00 D46 **379.03** Striatal alterations in mitochondrial function and α-synuclein in a rat model of methamphetamine-induced risk for Parkinson's disease. I. CALMA*; A. L. PERSONS; T. NAPIER. *Rush Univ.*

4:00 E1 **379.04** Estradiol lowers axonal mitochondrial oxidant stress in dopaminergic neurons. K. STOUT*; S. M. GRAVES; J. KONDAPALLI; D. SURMEIER. *Northwestern Univ., Univ. of Minnesota Twin Cities, Northwestern Univ. Dept. of Physiol.*

1:00 E2 **379.05** Spiking drives mitochondrial respiration through a calcium-dependent, anticipatory control system in substantia nigra dopaminergic neurons. E. ZAMPESE*; J. KONDAPALLI; D. L. WOKOSIN; D. SURMEIER. *Northwestern Univ., Northwestern Univ. Dept. of Physiol.*

2:00 E3 **379.06** Analysis of mitochondria and endoplasmic reticulum contacts by genetically encoded tag and volume electron microscopy in neuron cell. M. JUNG*; J. MUN. *Korea Brain Res. Inst.*

3:00 E4 **379.07** Parkinson's disease protein DJ-1 interacts with f1fo ATP synthase to regulate protein synthesis. R. CHEN*; P. LICZNERSKI; M. GRAHAM; G. COSSU; W. MANDEMAKERS; V. BONIFATI; E. A. JONAS. *Yale Univ., Brotzu Gen. Hosp., Erasmus MC.*

4:00 E5 **379.08** Abnormal mitochondria in a non-human primate model of MPTP-induced Parkinson's disease: Drp1 and CDK5/p25 signaling. J. PARK*. *Korea Res. Inst. of Biosci. & Biotechno.*

1:00 E6 **379.09** Characterization of the *in vivo* effects of alpha-synuclein preformed fibrils on mouse brain mitochondria. R. B. CREED; A. A. MEMON; M. S. GOLDBERG*. *Univ. of Alabama At Birmingham, Univ. of Alabama at Birmingham, Univ. Alabama At Birmingham.*

2:00 E7 **379.10** Using mouse cell-type-specific expression patterns of GWAS-implicated genes to identify vulnerable cell types and circuits in Parkinson disease. R. M. COWELL*; S. BOAS; L. J. MCMEEKIN; S. N. FOX; K. JOYCE; M. SIMMONS; K. L. GAMBLE. *Southern Res., Univ. of Alabama at Birmingham.*

3:00 E8 **379.11** Skilled motor assessment of the DJ-1 knockout rat. C. A. SANCHEZ*; C. A. THORN. *The Univ. of Texas At Dallas, Univ. of Texas at Dallas.*

4:00 E9 **379.12** Gastrointestinal dysfunction in the MitoPark mouse model recapitulates the chronology of gut dysfunction in Parkinson's disease. B. N. PALANISAMY*; S. GHAISAS; M. LANGLEY; H. JIN; S. DUTTA; P. PLUMMER; K. NARAYANASWAMY; A. VELLAREDDY; A. KANTHASAMY; A. KANTHASAMY. *Iowa State Univ., Univ. of Pennsylvania, Mayo Clin., Iowa State Univ., Iowa State Univ.*

1:00 E10 **379.13** Parkin misregulation of clathrin-mediated synaptic vesicle recycling drives dopamine oxidation in Parkinson's disease patient neurons. P. SONG*; S. JEON; T. KRAINC; Y. C. WONG; D. KRAINC. *Northwestern Univ., Univ. of Illinois at Chicago, Princeton Univ., Northwestern Univ. Feinberg Sch. of Med.*

2:00 E11 **379.14** Domain specific roles of α-synuclein in mitochondrial fragmentation and oxidation. S. GUNAWARDENA*; T. J. KRZYSTEK; R. BANERJEE; L. THURSTON; J. Q. HUANG; K. SWINTER. *The State Univ. of New York at Buffalo, The State Univ. of New York at Buffalo, State Univ. of New York at Buffalo.*

3:00 E12 **379.15** Parkin loss-of-function *Drosophila* dopaminergic neurons show signs of mitochondrial dysfunction during pupal development. L. M. BUHLMAN*; G. BERTOLIN; G. B. CALL. *Midwestern Univ., Univ. of Rennes 1, Midwestern Univ.*

4:00 E13 **379.16** GBA1 depletion compromises mitochondrial metabolism and sensitises neurons to calcium overload: From neuronal models to new therapeutic strategies. N. PLOTEGHER*; D. PEROCHEAU; R. FERRAZZA; G. MASSARO; A. A. RAHIM; G. GUELLA; S. N. WADDINGTON; G. SZABADKAI; M. BISAGLIA; L. BUBACCO; E. GREGGIO; M. R. DUCHEN. *Univ. of Padova, Univ. Col. London, Univ. Col. London, Univ. of Trento, Univ. Col. London.*

POSTER

380. Parkinson's Disease: Dopamine and Non-Dopamine Pathways

Theme C – Neurodegenerative Disorders and Injury

Mon. 1:00 PM – *McCormick Place, Hall A*

1:00 E14 **380.01** Changes in dopamine signaling and responses to drugs affecting dopaminergic neurotransmission in striatal and ventral midbrain slices from DAT-KO rats. J. T. LLOYD; P. KALLINGAPPA; A. G. YEE; P. Y. CHEUNG; R. N. KARUNASINGHE; A. JABED; P. S. FREESTONE; J. LIPSKI*. *Univ. Auckland, Univ. Auckland, Univ. Auckland, FMHS.*

2:00 E15 **380.02** Forced, but not spontaneous behaviors are initially upheld as dopamine transmission declines in Parkinson model. Y. CHEN*; B. J. HOFFER; L. OLSON. *Natl. Def. Med. Center/Tri-Service Gen. Hosp., NIDA/NIH, Karolinska Inst.*

• Indicated a real or perceived conflict of interest, see page 150 for details.
▲ Indicates a high school or undergraduate student presenter.
* Indicates abstract's submitting author

3:00 E16 **380.03** Determining the role of the dorsal striatum in D1R-D3R cooperativity in dyskinesia: Implications for L-DOPA-induced dyskinesia. K. E. LANZA*; K. CHEMAKIN; N. E. CHAMBERS; J. SERGIO; C. BISHOP. *Binghamton Univ., Binghamton Univ.*

4:00 E17 **380.04** Resting state connectivity changes in hypersexual impulse control disorders in Parkinson's disease. D. MATA-MARÍN; J. PINEDA-PARDO; F. ALONSO; J. MOLINA; J. OBESO; L. VELA; I. OBESO*. *Fundación de Investigación HM Hospitales, Hosp. Clínico San Carlos, Hosp. 12 de Octubre, Fundación Hosp. Alcorcón.*

1:00 E18 **380.05** Noradrenaline axons and alpha adrenoceptors in human and macaque thalamic nuclei involved in basal ganglia circuits. I. PÉREZ-SANTOS*; N. PALOMERO-GALLAGHER; K. ZILLES; C. CAVADA. *Facultad De Medicina, Univ. Autonoma De Madrid, Res. Ctr. Jülich, Med. Faculty, RWTH Aachen, and JARA - Translational Brain Med.*

2:00 E19 **380.06** Chemogenetic and pharmacological interrogation of pedunculopontine nucleus cholinergic neuron involvement in L-DOPA-induced dyskinesia and gait deficits in hemi-parkinsonian rats. N. E. CHAMBERS*; J. SERGIO; A. MCLUNE; K. E. LANZA; C. R. BISHOP. *Binghamton Univ., Binghamton Univ.*

3:00 E20 **380.07** Thalamic dopamine changes in Parkinsonism: Insight into novel pathogenic mechanisms. M. H. G. MONJE*; J. BLESA; M. GARCIA-CABEZAS; J. A. OBESO; C. CAVADA. *Univ. Autónoma De Madrid, Hosp. HM Puerta del Sur, Hosp. HM Puerta del Sur, Sargent College, Boston Univ., Univ. Autónoma Madrid.*

4:00 E21 **380.08** Compartments of dopaminergic neurons within the macaque monkey ventral substantia nigra have differential vulnerability to MPTP degeneration. J. BLESA; C. GIMÉNEZ-RODRÍGUEZ; P. ANDRÉS-CAMAZÓN; M. H. G. MONJE; N. LÓPEZ-GONZÁLEZ DEL REY; L. JIMÉNEZ-SÁNCHEZ; J. A. OBESO; C. CAVADA*. *Hosp. HM Puerta del Sur, Univ. Autonoma Madrid, Fac Medicina.*

1:00 E22 **380.09** Inhibition of striatal dopamine D5 receptor-mediated pathway attenuates levodopa-induced dyskinesia in a rat model of Parkinson's disease. G. ZHANG; Y. WANG*; L. YAO; J. FENG; Y. SUN. *Sch. of Basic Med. Sciences, Xi'an Jiaotong Univ.*

2:00 E23 **380.10** Perturbations of the dopaminergic pathway in the olfactory bulb may contribute to prodromal Parkinson's disease-related hyposmia. L. C. BEAUCHAMP*; L. J. VELLA; A. I. BUSH; K. J. BARNHAM. *The Univ. of Melbourne, The Florey Inst. of Neurosci. and Mental Hlth.*

3:00 E24 **380.11** ▲ The effects of acute and chronic L-DOPA on sensorimotor gating in hemi-Parkinsonian rats. R. FASSLER*; A. MCLUNE; C. SAITO; S. L. LEFKOWITZ; K. E. LANZA; N. E. CHAMBERS; C. R. BISHOP. *Binghamton Univ., Binghamton Univ.*

4:00 E25 **380.12** ● Pharmacological blockade of monoacylglycerol lipase reduces L-DOPA-induced dyskinesia in MPTP-lesioned macaques. J. R. CLAPPER*; T. H. JOHNSTON; J. M. BROTCHIE; S. H. FOX; J. L. BLANKMAN; A. VIADER; A. B. EZEKOWITZ; G. P. O'NEILL; C. R. BEALS. *Abide Therapeut., Atuka Inc., Univ. of Toronto.*

1:00 E26 **380.13** Impulse control disorder and sub-second dopamine fluctuations during risky decision-making in Parkinson's disease. B. LIEBENOW*; E. LAWRENCE; R. MORAN; J. WHITE; T. LOHRENZ; A. W. LAXTON; S. B. TATTER; P. MONTAGUE; K. T. KISHIDA. *Wake Forest Univ. Sch. of Med., VTC Fralin Biomed. Res. Inst., King's Col. London, Wake Forest Univ. Sch. of Med., Wake Forest Univ. Sch. of Med.*

2:00 E27 **380.14** The endocannabinoid system in Parkinson's disease. G. FLIK*; M. HEINS; P. VOEHRINGER; B. FERGER. *Charles River Labs., Boehringer Ingelheim Pharma GmbH & Co. KG, Boehringer Ingelheim Pharma GmbH & Co. KG.*

3:00 E28 **380.15** Effects of 6-hydroxydopamine lesions of the substantia nigra, the dorsal striatum, the medial accumbens and the lateral accumbens on free-choice high-fat high-sugar diet component preference. A. JOSHI*; F. FAIVRE; T. KOOL; L. L. KOEKKOEK; C. DIEPENBROEK; J. D. MUL; I. YALCIN; S. E. LA FLEUR; M. BARROT. *CNRS, Univ. de Strasbourg, Inst. des Neurosciences Cellulaires et Intégratives, Dept. of Endrocrinol. and Metabolism, Amsterdam UMC, Neurosci. Amsterdam, Univ. of Amsterdam, Metabolism and Reward, Netherlands Inst. of Neuroscience, Royal Netherlands Acad. of Sci. (KNAW).*

4:00 E29 **380.16** PET imaging studies of PDE10A in a nonhuman primate model of Parkinson disease. H. LIU; Z. LUO; J. GU; Y. YU; H. WHITE; H. FLORES; Y. ZHOU; V. CARROLL; G. D. TAMAGNAN; J. S. PERLMUTTER; Z. TU*. *Washington Univ. Sch. of Med., Invicro, XingImaging.*

1:00 E30 **380.17** L-tryptophan is a biomarker for Parkinson's disease. P. A. BRODERICK*; J. R. HORDOF; M. CABRERA. *The City Univ. of New York Sch. of Med.*

2:00 E31 **380.18** Extra-striatal dopamine in Parkinson's disease with rapid eye movement sleep behaviour disorder. M. VALLI*; S. CHO; J. KIM; M. DIEZ-CIRARDA; A. MIHAESCU; A. STRAFELLA. *Ctr. for Addiction and Mental Hlth.*

3:00 E32 **380.19** ● ▲ CRISPR Cas9 mouse model to study glutamate co-transmission by sertonin neurons of the dorsal raphe nucleus. L. SAIDI*; M. PARENT; C. PROULX. *CERVO.*

4:00 E33 **380.20** Quantification of subthalamic nucleus deep brain stimulation evoked changes in tonic dopamine levels *in vivo* using multiple cyclic square wave voltammetry. A. S. BARATH*; A. RUSHEEN; H. SHIN; C. D. BLAHA; D. JANG; K. E. BENNET; K. H. LEE; Y. OH. *Mayo Clinic, Rochester, Mayo Clin., Hanyang Univ., Hanyang Univ., Mayo Clin.*

1:00 E34 **380.21** Electrophysiological and neurochemical considerations of distinct neuronal populationsin the rat pedunculopontine nucleus and their responsiveness following 6-hydroxydopamine lesions. X. WANG*; M. LI; D. CHEN; M. WANG. *Shandong Normal Univ.*

2:00 E35 **380.22** Glutamatergic neurons in the subthalamic nucleus regulate mechanical and thermal pain thresholds in Parkinsonian mice. C. ZHOU*; Y. LUAN; D. TANG; H. WU; W. GU; C. XIAO. *Xuzhou Med. Univ.*

- ● Indicated a real or perceived conflict of interest, see page 150 for details.
- ▲ Indicates a high school or undergraduate student presenter.
- * Indicates abstract's submitting author

POSTER

381. Parkinson's Disease Oscillations

Theme C – Neurodegenerative Disorders and Injury

Mon. 1:00 PM – *McCormick Place, Hall A*

1:00 E36 **381.01** Changes in beta oscillatory activity within and across the basal ganglia-thalamocortical network in a progressive MPTP non-human primate model of Parkinson's disease. Z. T. BUSBY*; Y. YU; J. ZHANG; W. C. FRYLING; D. ESCOBAR SANABRIA; M. D. JOHNSON; L. A. JOHNSON; J. L. VITEK. *Univ. of Minnesota Dept. of Neurol., Macalester Col., Univ. of Minnesota.*

2:00 E37 **381.02** ● Oscillatory activity in the pallidum is subject and location specific in Parkinson's disease. L. A. JOHNSON*; J. E. AMAN; D. ESCOBAR SANABRIA; J. WANG; R. PATRIAT; M. E. HILL; S. E. COOPER; L. E. SCHROCK; N. HAREL; M. C. PARK; J. L. VITEK. *Univ. of Minnesota, Univ. of Minnesota, Univ. of Minnesota.*

3:00 E38 **381.03** ● Intermittent delivery of coordinated reset deep brain stimulation is more effective than continuous delivery. S. P. FERGUS*; K. M. SWITALLA; J. ZHANG; L. A. JOHNSON; M. D. JOHNSON; J. WANG; J. L. VITEK. *Univ. of Minnesota Dept. of Neurol., Univ. of Minnesota Dept. of Biomed. Engin.*

4:00 E39 **381.04** Task-related modulations of beta oscillatory activity in the basal ganglia and motor cortex are altered in Parkinsonism. Y. YU*; D. H. ROSS; S. NEBECK; J. ZHANG; M. D. JOHNSON; L. A. JOHNSON; J. L. VITEK. *Univ. of Minnesota Dept. of Neurol., Univ. of Minnesota.*

1:00 E40 **381.05** Longitudinal analysis of local field potentials recorded from deep brain stimulation leads in the subthalamic nucleus. A. BRINDA*; A. M. DOYLE; J. D. KRIEG; J. ALISCH; L. K. WILMERDING; M. BLUMENFELD; J. DAO; M. D. JOHNSON. *Univ. of Minnesota - Twin Cities, Univ. of Minnesota - Twin Cities, Boston Univ.*

1:00 DP07/E41 **381.06** ● (Dynamic Poster) Dynamic changes in oscillatory activity in the pallidum during motor tasks in Parkinson's disease. J. WANG*; J. E. AMAN; D. ESCOBAR SANABRIA; L. A. JOHNSON; M. HILL; S. E. COOPER; L. E. SCHROCK; R. PATRIAT; N. HAREL; M. C. PARK; J. L. VITEK. *Univ. of Minnesota, Univ. of Minnesota, Univ. of Minnesota, Univ. of Minnesota.*

3:00 E42 **381.07** Subject-specific computational models of subthalamic nucleus deep brain stimulation with pallido-pedunculopontine axis fibers of passage. M. GOFTARI*; J. KIM; M. LIVANOS; R. PATRIAT; E. JOHNSON; L. SCHROCK; N. HAREL; S. E. COOPER; M. D. JOHNSON. *Univ. of Minnesota, Univ. of Minnesota, Univ. of Minnesota, Univ. of Minnesota, Univ. of Minnesota.*

4:00 E43 **381.08** Investigating the role of the centromedian nucleus in gait. A. M. DOYLE*; J. D. KRIEG; L. K. WILMERDING; K. BRACKMAN; A. R. RUPPERT; A. JACOBSON; A. GRAY; D. BOUDANI; J. L. VITEK; M. D. JOHNSON. *Univ. of Minnesota, Univ. of Minnesota, Univ. of Minnesota Dept. of Neurol.*

1:00 E44 **381.09** Thalamic white matter investigated with serial PS-OCT imaging. M. YEATTS*; C. LIU; S. R. HEILBRONNER; M. D. JOHNSON; T. AKKIN. *Univ. of Minnesota, Univ. of Minnesota, Univ. of Minnesota.*

2:00 F1 **381.10** Comparison of therapeutic efficacy between multiple current sources and multiple stimulation sets. J. D. S. KRIEG*; A. M. DOYLE; J. SLOPSEMA; F. AGNESI; M. D. JOHNSON. *Univ. of Minnesota, Univ. of Minnesota, Twin Cities, Abbott.*

3:00 F2 **381.11** ● Limited trunk motion and variability during gait contribute to FOG and improve during STN DBS. J. O'DAY*; C. ANIDI; R. W. ANDERSON; J. PARKER; M. N. PETRUCCI; R. NEUVILLE; H. BRONTE-STEWART. *Stanford Univ., Stanford Univ., Stanford Univ., Stanford Univ., Stanford Univ.*

4:00 F3 **381.12** Alternations in M1 LFP oscillations of Parkinsonian mice during different movement states. J. WEI*; K. WANG; Y. CUI; Y. LIANG; J. JIA. *Capital Med. Univ.*

1:00 F4 **381.13** ● A comparison of methods for quantifying subthalamic beta burst dynamics in people with Parkinson's disease. R. W. ANDERSON*; R. S. NEUVILLE; C. M. ANIDI; M. N. PETRUCCI; J. E. PARKER; A. VELISAR; H. M. BRONTE-STEWART. *Stanford Univ.*

2:00 F5 **381.14** ● The relationship between beta burst durations and the conversion to freezing of gait in Parkinson's disease. M. N. PETRUCCI*; R. S. NEUVILLE; R. W. ANDERSON; J. E. PARKER; C. M. ANIDI; J. J. O'DAY; A. VELISAR; H. M. BRONTE-STEWART. *Stanford Univ., Stanford Univ.*

3:00 F6 **381.15** Neuromodulatory effects of electroacupuncture on corticostriatal beta synchronization and motor dysfunction in Parkinsonian rats. J. JIA*; X. JIANG; Y. YAN; K. WANG; J. WEI. *Capital Med. Univ.*

4:00 F7 **381.16** ● Freezing of gait and subthalamic neural dynamics during stepping are modulated when altering optic flow in a virtual environment in Parkinson's disease. J. E. PARKER*; J. O'DAY; R. S. NEUVILLE; M. N. PETRUCCI; R. W. ANDERSON; A. VELISAR; H. M. BRONTE-STEWART. *Stanford Univ., Stanford Univ.*

1:00 F8 **381.17** ● Beta peak frequency and burst dynamics are conserved across different movements in Parkinson's disease. R. S. NEUVILLE; R. W. ANDERSON; M. N. PETRUCCI; J. E. PARKER; A. VELISAR; H. BRONTE-STEWART*. *Stanford Univ.*

2:00 F9 **381.18** Reinforcement learning requires balanced activation of dopamine and sonic hedgehog pathways in striatal cholinergic interneurons. S. URIBE-CANO*; D. R. ZUELKE; L. B. MALAVE; A. H. KOTTMANN. *City Univ. of New York, CUNY Sch. of Med., CUNY Sch. of Medicine, CCNY, City Univ. of New York.*

3:00 F10 **381.19** Elevated thalamocortical synchronization in Parkinson's disease assessed using magnetoencephalography. R. F. H. CASH; K. ZENG*; L. G. DOMINGUEZ; R. WENNBERG; D. CHEYNE; M. J. N. BROWN; R. CHEN. *Departments of Biomed. Engin. and Psychiatry, Univ. of Melbourne, Div. of Neurology, Dept. Medicine, Univ. of Toronto and Krembil Brain Inst., Mitchell Goldhar MEG Unit, Clin. Neurophysiol. Laboratory, Toronto Western Hospital, Univ. of Toronto, Dept. of Med. Imaging, Univ. of Toronto, Dept. of Kinesiology and Hlth. Science, California State Univ.*

4:00 F11 **381.20** Transcriptional profiling of striatal cholinergic interneurons with and without dopamine neuron provided sonic hedgehog. D. R. ZUELKE*; L. B. MALAVE; P. BARKAUS; S. MAHARJ; K. KENNEDY; A. H. KOTTMANN. *CUNY Sch. of Med.*

1:00 F12 **381.21** Distinct subpopulations of parvalbumin-expressing neurons in the external globus pallidus (GPe) mediate different behavioral functions. V. LILASCHAROEN*; E. H. WANG; N. DO; A. N. TRAN; X. WANG; B. LIM. *UCSD.*

- ● Indicated a real or perceived conflict of interest, see page 150 for details.
- ▲ Indicates a high school or undergraduate student presenter.
- * Indicates abstract's submitting author

2:00 F13 **381.22** Sonic Hedgehog signaling from mesencephalic and cortical projections stimulate striatal cholinergic and fast spiking interneurons altering L-Dopa induced dyskinesia formation and expression. L. B. MALAVE*; D. R. ZUELKE; S. URIBE-CANO; A. H. KOTTMANN. *CUNY Sch. of Medicine, CCNY, CUNY Sch. of Med., CUNY City Col. of New York, City Univ. of New York.*

3:00 F14 **381.23** Neural selectivity, efficiency, and dose equivalence in deep brain stimulation through pulse width tuning and segmented electrodes. C. J. ANDERSON*; D. N. ANDERSON; S. M. PULST; C. R. BUTSON; A. D. DORVAL. *Univ. of Utah, Univ. of Utah, Univ. of Utah Clin. Neurosciences Ctr., Univ. of Utah, Univ. of Utah.*

4:00 F15 **381.24** Dynamic spiking network model of basal ganglia for movement disorders. A. DUTTA*. *Univ. of Connecticut.*

POSTER

382. Circuit Mechanisms of Motor Dysfunction in Parkinson's Disease

Theme C – Neurodegenerative Disorders and Injury

Mon. 1:00 PM – *McCormick Place, Hall A*

1:00 F16 **382.01** Differential ultrastructural alterations in the Vglut2 (STN) glutamatergic input to the substantia nigra pars compacta/pars reticulata following nigrostriatal dopamine loss in a progressive mouse model of Parkinson's disease. C. K. MESHUL*; C. MOORE; M. XU; J. K. BOHLEN. *VA Med. Ctr., Oregon Hlth. & Sci. Univ., Cindy Moore, Mo Xu, Jerry Bohlen.*

2:00 F17 **382.02** Unravelling the neural circuits related to movement disorders: Pedunculopontine nucleus. M. RIDDER*; H. INAGAKI; L. XU; K. SVOBODA; P. SAH. *Univ. of Queensland, HHMI / Janelia Farm Res. Campus.*

3:00 F18 **382.03** Multimodal PET and fcMRI reveals regional modulation by STN DBS correlating to motor outcomes. J. R. YOUNCE*; A. TANENBAUM; M. C. CAMPBELL; J. S. PERLMUTTER; S. A. NORRIS. *Washington Univ. In St Louis, Washington Univ. in St Louis, Washington Univ. Sch. of Med., Washington Univ. Sch. Med., Washington Univ. Sch. of Med.*

4:00 F19 **382.04** Inhibitory and excitatory DREADD-induced modulation of parafascicular thalamic nucleus projections to the basal ganglia alters motor function in hemiparkinsonian rats. N. NOVIKOV; E. BRAZHNIK; A. J. MCCOY; M. W. PRESTON; J. R. WALTERS*. *NIH NINDS.*

1:00 F20 **382.05** Right arm flexion during magnetoencephalography demonstrates more focal and robust sensorimotor beta attenuation in Parkinson's patients versus healthy controls. I. E. HARMSEN*; N. C. ROWLAND; L. G. DOMINGUEZ; A. M. LOZANO. *Univ. of Toronto, Med. Univ. of South Carolina, Univ. of Toronto.*

2:00 F21 **382.06** Pathological response of striatal projection neurons to dopamine is associated with abnormal involuntary movements in Parkinsonian rats. X. CAO*; C. ZHENG; G. CHEN; W. ZENG; Y. XU. *Union Hospital, Tongji Med. College, Huazhong Univ. of Sci. and Technol., Renmin Hospital, Wuhan Univ.*

3:00 F22 **382.07** Modulation of D3 receptor expression by D3nf isoform in striato-nigral projections of the 6-OHDA denervated rat. B. CAMPOS*; J. AVALOS-FUENTES; C. PIÑA LEYVA; H. CORTÉS; F. PAZ-BERMUDEZ; B. FLORÁN GARDUÑO. *CINVESTAV, CINVESTAV, Inst. Nacional de Rehabilitacion.*

4:00 F23 **382.08** ● Bridging the gap between prodromal and symptomatic phases of Parkinson's disease using translational EEG biomarkers in preclinical models. V. DUVEAU*; J. VOLLE; G. PORRAS; E. PIOLI; A. EVRARD; C. RUGGIERO; C. ROUCARD; E. BEZARD; Y. ROCHE. *Synapcell SAS, SynapCell SAS, Motac Neurosci., Inst. of Neurodegenerative Dis.*

1:00 F24 **382.09** Freezing of gait in Parkinson's disease leads to lateralized alterations of resting state functional connectivity. O. MIRANDA-DOMINGUEZ*; A. RAGOTHAMAN; M. MANCINI; R. J. HERMOSILLO; E. J. FECZKO; J. G. NUTT; D. A. FAIR; F. B. HORAK. *Oregon Hlth. and Sci. Univ., Oregon Hlth. and Sci. Univ., Oregon Hlth. and Sci. Univ., Oregon Hlth. and Sci. Univ.*

2:00 F25 **382.10** Intersectional and subtractive strategies to study the origins and functions of SNc dopamine neurons. G. CARONIA- BROWN*; M. AZCORRA- SEDANO; M. M. PEREIRA LUPPI; J. POULIN; F. CICCHETTI; D. A. DOMBECK; R. AWATRAMANI. *Northwestern Univ., Northwestern Univ., Univ. Laval.*

3:00 F26 **382.11** ● GABAergic interneurons in the ventral motor and caudal intralaminar thalamic nuclei in primates: A potential source of GABAergic dysfunction in Parkinsonism? H. SOLOFF*; G. M. JEYARAJ; A. J. SWAIN; S. JENKINS; R. M. VILLALBA; Y. SMITH. *Emory Univ., Yerkes Natl. Primate Res. Center, UDALL Cen, Yerkes Natl. Primate Res. Ctr., Emory Univ., Yerkes Resch Ctr. and Udall Ctr. of Excelence For Parkinson's Disease, Emory Un, Yerkes Res. Ctr., Udall Ctr. Excel. For Parkinson's Dis. and Dept. of Neurol.*

4:00 F27 **382.12** Using diffuse optical tomography to understand deep brain stimulation's impact on cortical networks. A. SHERAFATI*; A. T. EGGEBRECHT; T. M. BURNS-YOCUM; H. M. LUGAR; A. NARAYANAN; T. DOTY; S. EISENSTEIN; A. M. SVOBODA; M. L. SCHROEDER; A. Z. SNYDER; M. USHE; J. P. CULVER; T. HERSHEY. *Washington Univ. In St. Louis, Indiana Univ.*

1:00 F28 **382.13** Parkinsonian affected basal ganglia output shows condition specific attenuation. A. TEKRIWAL*; M. LINTZ; J. A. THOMPSON; G. FELSEN. *Univ. of Colorado Sch. of Med., Univ. of Colorado Sch. of Med., Univ. of Colorado Sch. of Med., Univ. of Colorado Sch. of Med.*

2:00 F29 **382.14** How do subcortical networks shape the dynamics of pathological beta bursts? An *in-silico dissection of Parkinsonian brain rhythms and the role of interareal phase synchronization.* T. WEST*; S. F. FARMER; V. LITVAK; P. J. MAGILL; A. SHAROTT; H. CAGNAN. *OXFORD UNIVERSITY, UNIVERSITY COLLEGE LONDON, UCL Queen Square Inst. of Neurol., Univ. of Oxford, MRC Anatom. Neuropharm. Unit, Univ. of Oxford.*

3:00 F30 **382.15** Dissociable locations of beta frequency power and coherence in patients with Parkinson's disease. P. M. LAURO*; M. PINTO; E. SCHAEFFER; S. LEE; W. F. ASAAD. *Brown Univ., Brown Univ.*

• Indicated a real or perceived conflict of interest, see page 150 for details.
▲ Indicates a high school or undergraduate student presenter.
* Indicates abstract's submitting author

4:00 F31 **382.16** ● Manipulating hedonic control of eating: Effects of STN DBS in Parkinson's disease. J. STEINHARDT*; H. HANßEN; P. SCHRAMM; J. K. KRAUSS; J. VOGES; V. TRONNIER; T. F. MÜNTE; M. HELDMANN; N. BRÜGGEMANN. *Dept. of Intrnl. Med., Inst. of Neurogenetics, Inst. of Neuroradiology, Dept. of Neurosurg., Dept. of Stereotactic Neurosurg., Dept. of Neurosurg., Dept. of Neurol., Dept. of Neurol.*

1:00 F32 **382.17** ● Spatial dependence of frequency effects in deep brain stimulation. D. E. AMAYA*; P. M. LAURO; J. YU; D. D. LIU; E. L. SCHAEFFER; M. AHN; U. AKBAR; S. LEE; W. F. ASAAD. *Brown Univ., Handong Global Univ.*

2:00 F33 **382.18** Phase-related high-beta oscillations in Parkinson's disease during stepping in a virtual environment. J. K. BAARBÉ; S. TRAN*; K. J. LIZARRAGA; J. SARAVANAMUTTU; P. SAHA; R. CHEN. *Toronto Western Hosp.*

3:00 F34 **382.19** Frequency specific neural circuit modulation during optogenetic deep brain stimulation in subthalamic nucleus. C. YU*; I. R. CASSAR; J. SAMBANGI; W. M. GRILL. *Michigan Tech. Univ., Duke Univ., Duke Univ.*

4:00 F35 **382.20** Optogenetic modulation of striatal pathways elicits abnormal movements in a Parkinson's disease model. I. CASTELA*; R. CASADO; R. MARQUEZ; R. MORATALLA; J. OBESO; L. HERNÁNDEZ. *HM-CINAC. Univ. Hosp. HM Puerta Del Sur, Network Ctr. for Biomed. Res. in Neurodegenerative Dis. (CIBERNED), Carlos III Hlth. Inst., Cajal Inst., CEU-San Pablo Univ.*

1:00 F36 **382.21** The relationship between temporal sensory discrimination and locomotor ability in Parkinson's disease. C. HUANG*; C. LIN; M. TSENG. *Grad. Inst. Of Clin. Medicine, NTUCM, Dept. of Neurology, Natl. Taiwan Univ. Hosp., Grad. Inst. of Brain and Mind Sciences, NTUCM.*

2:00 F37 **382.22** Parkinsonian slow oscillations in the indirect pathway precede M1 oscillations and predict motor dysfunction. T. C. WHALEN*; A. M. WILLARD; J. E. RUBIN; A. H. GITTIS. *Carnegie Mellon Univ., Clarion, Univ. of Pittsburgh, Carnegie Mellon Univ.*

3:00 F38 **382.23** The altered dynamic amplitude of low-frequency fluctuation associated with depression and anxiety in Parkinson's disease. J. KIM*; M. VALLI; M. CRIAUD; A. MIHAESCU; S. CHO; M. CIRARDA; A. STRAFELLA. *Res. Imaging Centre, Ctr. For Addiction and Mental Hlth., Div. of Brain, Imaging and Behaviour – Systems Neurosci., Krembil Res. Institute, UHN, Morton and Gloria Shulman Movement Disorder Unit & E.J., Safra Parkinson Dis. Program, UHN.*

4:00 F39 **382.24** Modulation of parkinsonism and L-DOPA-induced dyskinesia by the substantia nigra reticulata. Y. HU*; S. L. ALBERICO; T. C. MA; U. J. KANG. *New York Univ. Langone Hlth.*

1:00 F40 **382.25** Layer-specific cortical changes in response to deep brain stimulation of the subthalamic nucleus. D. M. TAYLOR*; T. JOHNSON; S. MORALLE; S. MEADE; B. CAMPBELL; K. BAKER. *Cleveland Clin., Louis Stokes Cleveland VA Med. Ctr., Case Western Reserve Univ.*

2:00 F41 **382.26** Potentials evoked by directional deep brain stimulation of the subthalamic nucleus region recorded using electrocorticography in the non human primate. B. A. CAMPBELL*; H. CHO; C. E. WYANT; A. G. MACHADO; K. B. BAKER. *Cleveland Clin., Cleveland Clin.*

POSTER

383. Parkinson's Disease: Clinical Trials

Theme C – Neurodegenerative Disorders and Injury

Mon. 1:00 PM – *McCormick Place, Hall A*

1:00 F42 **383.01** Exercise interacts with dopamine to improve motor learning in Parkinson's disease. J. NEPVEU*; M. M. BECK; D. MEDEIROS; L. RODRIGUES; B. DE LAS HERAS; M. WEISS; C. CENTENO; J. SALIB; L. BHERER; A. DAGHER; J. DOYON; J. LUNDBYE-JENSEN; M. ROIG. *Memory and Motor Rehabil. Lab. (MEMORY-LAB), Univ. of Copenhagen, McGill Univ., Univ. de Bordeaux, Univ. de Montréal, McConnell Brain Imaging Ctr., Dept. of Neurosci. and Pharmacology, Univ. of Copenhagen, McGill Univ.*

2:00 F43 **383.02** Optimizing dance interventions to improve motor function in people with Parkinson's disease and older adult. P. GATES*; J. H. KIM; R. MELCZAK; J. MEGGITT; F. DISCENZO; A. L. RIDGEL. *Kent State Univ., Rockwell Automation (retired).*

3:00 F44 **383.03** ● Deep brain stimulation of the subthalamic nucleus may not modulate beta burst activity in persons with Parkinson's disease. S. L. SCHMIDT*; J. J. PETERS; D. A. TURNER; W. M. GRILL. *Duke Univ.*

4:00 F45 **383.04** ▲ Comparative analysis of structural deficit between olfaction and gustation in terms of diagnostic accuracy and consistency in Parkinson's disease. N. S. OSAKWE*; H. CHATTERJEE; G. ELUMALAI; N. SEWRAM. *Texila American Univ.*

1:00 F46 **383.05** Long-term post-mortem studies following neurturin gene therapy in advanced Parkinson's disease. Y. CHU*; B. T. RAYMOND; W. C. OLANOW; J. H. KORDOWER. *Rush Univ. Med. Ctr., RTBioconsultants Inc, Mount Sinai Sch. of Med., Rush Univ. Med. Ctr.*

2:00 G1 **383.06** Do spatiotemporal measures of functional gait predict straight-line gait in individuals with Parkinson's disease? K. L. DOYLE*; M. TOEPFER; K. A. PICKETT. *Univ. of Wisconsin -- Madison.*

3:00 G2 **383.07** ▲ Enhancement of hand functions in individuals with Parkinson's disease: Impact of virtual reality training. Z. ELIAS*; B. BALAKRISHNAN; M. GANESAN. *Univ. of Dubuque, Clarke Univ.*

4:00 G3 **383.08** Plasticity of frequency dependent tremor control in Parkinson disease (PD) subthalamic nucleus (STN) deep brain stimulation (DBS) implanted individuals. E. L. HARGREAVES*; D. P. SCHNEIDER; R. DIPAOLA; J. CHEN; S. F. DANISH; D. L. CAPUTO. *Robert Wood Johnson Med. Sch. – Rutgers Univ., Robert Wood Johnson Med. Sch. – Rutgers Univ.*

1:00 G4 **383.09** ● Pharmacokinetic variability of isradipine in participants with Parkinson's disease from the phase 3 STEADY-PD clinical trial. C. S. VENUTO; D. SURMEIER*; A. WATTS; K. BIGLAN; R. HAUSER; S. HENDERSON; K. HODGEMAN; R. HOLLOWAY; E. KAYSON-RUBIN; D. KINEL; A. LANG; C. LUNGU; J. LOWELL; C. G. TAROLLI; S. SHARMA; D. OAKES; I. SHOULSON; T. SIMUNI. *Univ. of Rochester, Northwestern Univ. Dept. of Physiol., Univ. of Rochester, Eli Lilly Pharmaceuticals, Univ. of South Florida, Univ. of Rochester, Parkinson Fndn. Patient Advocate, Toronto Western Hosp., Natl. Inst. of Hlth., Northwestern Univ.*

● Indicated a real or perceived conflict of interest, see page 150 for details.
▲ Indicates a high school or undergraduate student presenter.
* Indicates abstract's submitting author

2:00 G5 **383.10** ● Intravenous administration of nicotinamide adenine dinucleotide alleviates tremors associated with Parkinson's disease: A case report. L. E. RUTHERFORD*, II; S. L. BROOM*; T. OLDS; R. F. MESTAYER; P. N. MESTAYER. *Springfield Wellness Ctr., William Carey Univ., NAD Research, Inc.*

3:00 G6 **383.11** ● Analyzing the differences in neural activation between conventional and interleaving deep brain stimulation of the subthalamic nucleus for dyskinesia suppression. G. DUFFLEY*; C. AQUINO; C. R. BUTSON. *Univ. of Utah, Univ. of Utah, Univ. of Utah.*

4:00 G7 **383.12** ● Biomarkers to guide directional DBS for Parkinson's disease: 2 year interim analyses from a randomized, double-blind crossover trial. H. C. WALKER*; C. GONZALEZ; Z. IRWIN; C. HURT; D. KUHMAN; A. NAKHMANI; R. MARTIN; S. BLACK; M. WADE; M. AWAD; R. VADEN; N. BENTLEY; B. GUTHRIE. *UAB, UAB, UAB, UAB, UAB.*

1:00 G8 **383.13** ● Analyses of pharmacokinetics, CSF exposures and CSF dopamine and its metabolite levels in NILO-PD, a phase 2A study of nilotinib in moderate to advanced Parkinson's disease. K. M. MERCHANT*; T. SIMUNI; B. FISKE; C. COFFEY; H. MATTHEWS; R. WYSE; P. BRUNDIN; D. K. SIMON; M. SCHWARZSCHILD; D. WEINER; J. ADAMS; L. TRUSSI; L. BAKER; M. KOSTRZEBSKI; T. WARD; G. GARY RAFALOFF; C. VENUTO. *Transthera Consulting Co, Northwestern Univ., Michael J Fox Fndn. for Parkinson's Res., Univ. of Iowa, The Cure Parkinson's Trust, Van Andel Res. Inst., 7Beth Israel Deaconess Med. Ctr. and Harvard Med. Sch., Massachusetts Gen. Hosp., Consultant, Univ. of Rochester, Univ. of Rochester, Patient Res. Advocate.*

2:00 G9 **383.14** Anti-Parkinsonian medication improves impaired eye-hand coordination in participants with Parkinson's disease. M. J. MUNOZ*; R. ARORA; E. GEORGE; G. PAL; L. A. VERHAGEN METMAN; L. C. GOELZ; D. M. CORCOS; F. J. DAVID. *Northwestern Univ., Northwestern Univ., Rush Univ. Med. Ctr., Univ. of Illinois at Chicago.*

3:00 G10 **383.15** ● Effects of cycling cadence variability on motor function and cortical inhibition in Parkinson's disease. A. L. RIDGEL*; A. J. GARBIN; Y. CHUNG; J. AXELROD; S. YASSA; B. E. FISHER. *Kent State Univ., KSU Brain Hlth. Res. Inst., USC.*

4:00 G11 **383.16** A smartphone-based motor function battery to assess Parkinson's disease patients in the community setting. E. E. ECK; B. L. TRACY*. *Colorado State Univ.*

1:00 G12 **383.17** Niacin supplement for Parkinson's disease. B. GIRI*; M. SEAMON; B. BABAN; R. CHONG; J. C. MORGAN; S. PUROHIT; C. WAKADE. *Augusta Univ., Augusta Univ., Med. Coll GA, CNVAMC.*

2:00 G13 **383.18** Electrophysiological responses to deep brain stimulation in Parkinson's disease. A. C. GUEST; D. GRAHAM; K. J. O'NEILL, III; Z. MIRZADEH; F. PONCE; B. GREGER*. *Univ. of Arizona Col. of Med., Arizona State Univ., Barrow Neurolog. Inst.*

3:00 G14 **383.19** Real-time feedback during treadmill training for individuals with Parkinson's disease. N. KRISHNAMURTHI*; D. BASKARAN; S. PARIKH; V. VENUGOPAL; N. MUTHUKRISHNAN; E. DRIVER-DUNCKLEY; P. MAHANT; M. C. OSPINA; J. J. ABBAS. *Arizona State Univ., Arizona State Univ., Mayo Clin., St. Joseph's Hosp. and Med. Ctr., Univ. of Arizona, Arizona State Univ.*

4:00 G15 **383.20** Gait and balance monitoring using wearable technology for real-time feedback in Parkinson's disease. N. MUTHUKRISHNAN*; J. ABBAS; P. TURAGA; T. INGALLS; N. KRISHNAMURTHI. *Arizona State Univ., Arizona State Univ., Arizona State Univ.*

POSTER

384. Parkinson's Disease Human Studies: Genetics and Diagnostics

Theme C – Neurodegenerative Disorders and Injury

Mon. 1:00 PM – *McCormick Place, Hall A*

1:00 G16 **384.01** Relations among mood, cognition, severity of symptoms and autonomic functions in Parkinson's disease patients. D. P. LOPES*; F. B. RODRIGUES; E. P. PEDROSA; C. E. PINTO; C. S. G. CAMPBELL. *Sarah Network of Rehabil. Hosp., Univ. Católica de Brasília.*

2:00 G17 **384.02** The investigation of epigenetic mechanisms *in vivo* in Parkinson's disease patient brains quantified by non-invasive PET imaging using a PET/MR. S. FIEDLER*; L. WERNECK; B. NTAGANDA; S. N. GOMPERTS; C. WANG. *Massachusetts Gen. Hosp., Massachusetts Gen. Hosp.*

3:00 G18 **384.03** ● Cognitive outcomes of STN-DBS in GBA-PD. G. PAL*; E. HILL; T. FOLTYNIE; V. LYTHE; R. ALCALAY; P. GARCIA; K. MARDER; R. SAUNDERS-PULLMAN; S. BRESSMAN; J. AASLY; B. OUYANG; Y. LIU; S. ANDERSON; B. BERNARD; L. VERHAGEN. *Rush Univ. Med. Ctr., Univ. Col. London, Columbia Univ., Mount Sinai, Norwegian Univ. of Sci. and Technol.*

4:00 G19 **384.04** Neurite orientation dispersion and density imaging (NODDI) and free-water imaging in Parkinsonism. T. MITCHELL*; E. HERSCHEL; D. B. ARCHER; W. T. CHU; S. A. COOMBES; S. LAI; B. J. WILKES; N. R. MACFARLAND; M. S. OKUN; M. L. BLACK; T. SIMUNI; C. COMELLA; T. XIE; T. B. PARRISH; A. KURANI; D. M. CORCOS; D. E. VAILLANCOURT. *Univ. of Florida, Northwestern Univ. Feinberg Sch. of Med., Univ. of Florida, Univ. of Florida, Univ. of Florida, Northwestern Univ. Feinberg Sch. of Med., Rush Univ. Med. Ctr., Univ. of Chicago Med., Northwestern Univ. Feinberg Sch. of Med.*

1:00 G20 **384.05** Associations between cortical thickness and white matter connectivity. L. LUO*; N. VANEGAS; D. TOMISHON; Y. GAZES. *Columbia Univ. Med. Ctr., Columbia Univ. Med. Ctr.*

2:00 G21 **384.06** Cytoskeletal alterations contributing to synapto-axonal dysfunction in Parkinson's disease. C. C. WARTH PEREZ ARIAS*; L. CALDI GOMES; C. LENZ; H. URLAUB; H. WARTMANN; S. BONN; S. RIZZOLI; P. LINGOR. *Univ. of Goettingen Sch. of Med., Max Planck Inst. for Biophysical Chem., ZMNH Inst. für Medizinische Systembiologie, Tech. Univ. of Munich.*

3:00 G22 **384.07** Fostering inclusivity in research engagement for underrepresented populations in Parkinson's disease: The FIRE-UP PD study. A. V. SANCHEZ*; H. HEMLEY; J. D. JACKSON. *Massachusetts Gen. Hosp., Harvard Med. Sch.*

4:00 G23 **384.08** Application of tract-based spatial statistic analysis of Parkinson's disease. Z. DI*; T. WANG; J. YANG; Q. ZHANG; X. WU; Z. LIU; X. WANG. *Xi'An Central Hosp., Xi'An Central Hosp., Xi'An Central Hosp., Xi'An Central Hosp.*

- ● Indicated a real or perceived conflict of interest, see page 150 for details.
- ▲ Indicates a high school or undergraduate student presenter.
- * Indicates abstract's submitting author

1:00 G24 **384.09** ● Atlas-independent, individualized tissue activation modeling to map the optimal location of subthalamic deep brain stimulation for Parkinson's disease. K. A. MALAGA*; J. T. COSTELLO; K. L. CHOU; P. G. PATIL. *Univ. of Michigan, Univ. of Michigan, Univ. of Michigan, Univ. of Michigan.*

2:00 G25 **384.10** Polygenic risk for Parkinson's disease in unaffected individuals associates with microstructure of disease-related white matter regions. J. BRIGHT*; L. DING; M. BORNSTEIN; M. LAANSMA; Y. VAN DER WERF; P. M. THOMPSON; N. JAHANSHAD. *USC, Vrije Univ. Med. Ctr.*

3:00 G26 **384.11** ● Distribution of tremorogenic activity and tremor in the upper limbs of persons with essential tremor. S. K. CHARLES*; D. STANDRING; A. PIGG; J. THOMPSON-WESTRA; K. MENTE; C. MAURER; D. HAUBENBERGER; M. HALLETT. *Brigham Young Univ., Brigham Young Univ., Natl. Inst. of Neurolog. Disorders and Stroke, Natl. Inst. of Neurolog. Disorders and Stroke.*

4:00 G27 **384.12** Exploring phosphorous metabolites in Parkinson's disease at 7Tesla. K. THOMAS*; P. BEDARD; D. EHRLICH; M. HALLETT; S. G. HOROVITZ. *NIH - NINDS, NIH - NINDS.*

1:00 G28 **384.13** Transcriptomic analysis of whole blood samples from the Parkinson's progression markers initiative for biomarker discovery. E. HUTCHINS*; D. CRAIG; I. VIOLICH; E. ALSOP; S. HUTTEN; B. CASEY; A. REIMER; S. LEVY; M. R. COOKSON; R. GIBBS; C. BLAUWENDRAAT; K. R. VAN KEUREN-JENSEN. *Translational Genomics Res. Inst., USC, The Michael J Fox Fndn. For Parkinson's Resea, HudsonAlpha Inst. for Biotech., Natl. Inst. Aging, NIH, Translational Genomics Res. Inst.*

2:00 G29 **384.14** H3K27 acetylation landscape dysregulation in patients with Parkinson's disease. J. SUNDARESAN*; G. S. NIDO; C. DÖLLE; C. TZOULIS. *Univ. of Bergen.*

3:00 G30 **384.15** Cortical and subcortical microstructural alterations detected by diffusion tensor imaging in early-stage Parkinson's disease. M. AMANDOLA*; H. LEUNG. *Stony Brook Univ., SUNY Stony Brook.*

4:00 G31 **384.16** Subcortical brain volumes as potential markers of Parkinson's disease progression. R. M. WALES*; M. WONG; M. KARIBIAN; H. LEUNG. *SUNY Stony Brook.*

POSTER

385. Movement Disorders: Clinical and Preclinical Studies

Theme C – Neurodegenerative Disorders and Injury

Mon. 1:00 PM – *McCormick Place, Hall A*

1:00 G32 **385.01** ● ▲ Sensory weighting for postural control and fall-risk changes with progression of Huntington's disease. M. B. MAY*; J. COREY-BLOOM; P. E. GILBERT; D. J. GOBLE; H. S. BAWEJA. *San Diego State Univ., Univ. of California San Diego, San Diego State Univ., San Diego State Univ., San Diego State Univ.*

2:00 G33 **385.02** Wearable-sensor driven responsive deep brain stimulation for the improved treatment of essential tremor. S. CERNERA*; J. ALCANTARA; E. OPRI; J. CAGLE; M. S. OKUN; A. GUNDUZ. *Univ. of Florida, Univ. of Florida.*

3:00 G34 **385.03** Reduction of tremor in essential tremor patients using electrical stimulation of afferent pathways. A. PASCUAL VALDUNCIEL; F. O. BARROSO*; M. GONZALEZ SÁNCHEZ; J. PEREZ SÁNCHEZ; S. MUCELI; M. K. JUNG; F. GRANDAS; D. FARINA; J. L. PONS. *Spanish Natl. Res. Council (CSIC), Hosp. Gen. Universitario Gregorio Marañón, Imperial Col. London.*

4:00 G35 **385.04** ● Efficacy of long term intrathecal 2-hydroxypropyl-ß-cyclodextrin treatment on balance and gait deficits in Niemann-Pick type C1. J. A. O'KEEFE*; J. M. JOYCE; K. E. WROBEL; N. PURCELL; B. OUYANG; Y. LIU; E. BERRY-KRAVIS. *Rush Univ. Med. Ctr., Rush Univ., Rush Univ., Rush Univ., Rush Univ., Rush Univ.*

1:00 G36 **385.05** ▲ Neuroprotective effects of melatonin pretreatment on a Parkinson's disease experimental model induced by manganese mixture inhalation. M. RODRÍGUEZ-ALCÁNTARA; O. MEJÍA-GARCÍA; A. GUTIÉRREZ-VALDEZ; E. MONTIEL-FLORES; J. ESPINOSA-VILLANUEVA; J. ORDOÑEZ-LIBRADO; P. ALEY-MEDINA; M. AVILA-COSTA*. *UNAM, Neuromorphology Lab.*

2:00 G37 **385.06** ▲ Postural control deficits with progressive supranuclear palsy differ from idiopathic Parkinson's disease. K. E. DILLON*; C. J. MCELROY; I. LITVAN; J. FILOTEO; D. J. GLOBE; H. S. BAWEJA. *San Diego State Univ., Univ. of California at San Diego, Oakland Univ.*

3:00 G38 **385.07** Adaptive cortico-thalamic closed-loop deep brain stimulation for an enhanced treatment of essential tremor. E. OPRI*; S. CERNERA; R. MOLINA; M. S. OKUN; K. D. FOOTE; A. GUNDUZ. *Univ. of Florida, Univ. of Florida, Univ. of Florida, Univ. of Florida.*

4:00 G39 **385.08** ● Stimulation rebound in deep brain stimulation for essential tremor. B. I. FERLEGER*; S. S. COOPER; A. B. BROWN; A. L. KO; H. J. CHIZECK; J. A. HERRON. *Univ. of Washington, Univ. of Washington, Univ. of Washington.*

1:00 G40 **385.09** ▲ Emotional symptoms in CNS demyelinating diseases: Comparison between multiple sclerosis and neuromyelitis optica spectrum disorders. L. CHOI*; G. KIM; S. KIM; S. LEE; H. KIM; H. KIM; S. KIM; Y. LIM; K. KIM; E. LEE. *Asan Med. Ctr., Asan Med. Inst. of Convergence Sci. and Technol.*

2:00 G41 **385.10** ● A novel non-human primate model of essential tremor. M. APANAVICIUTE*; L. SAIEVA; M. BAKER; S. BAKER. *Newcastle Univ., Inst. of Neurosci.*

3:00 G42 **385.11** The efficacy of phase-specific stimulation essential tremor during daily activities. C. REIS*; N. HALIASOS; P. BROWN; M. WOOLRICH; H. CAGNAN. *Brain Network Dynamics Unit, Barking, Havering and Redbridge Univ. Hosp. NHS Trust, Brain Network Dynamics Unit, Oxford Ctr. for Human Brain Activity.*

● Indicated a real or perceived conflict of interest, see page 150 for details.
▲ Indicates a high school or undergraduate student presenter.
* Indicates abstract's submitting author

4:00 G43 **385.12** ● Structural connectivity predicts clinical outcomes of deep brain stimulation for Tourette syndrome. K. A. JOHNSON*; G. DUFFLEY; D. SERVELLO; A. BONA; M. PORTA; J. L. OSTREM; E. BARDINET; M. WELTER; A. M. LOZANO; J. BALDERMANN; J. KUHN; D. HUYS; T. FOLTYNIE; M. HARIZ; E. M. JOYCE; L. ZRINZO; Z. KEFALOPOULOU; F. MENG; Z. LING; A. Y. J. M. SMEETS; L. ACKERMANS; V. VISSER-VANDEWALLE; A. Y. MOGILNER; M. H. POURFAR; L. ALMEIDA; A. GUNDUZ; W. HU; K. D. FOOTE; M. S. OKUN; C. R. BUTSON. *Univ. of Utah, Univ. of Utah, IRCCS Inst. Ortopedico Galeazzi, IRCCS Inst. Ortopedico Galeazzi, Univ. of California San Francisco, Inst. du Cerveau et de la Moelle Epiniere, Sorbonne Universités, Univ. of Pierre and Marie Curie Univ. of Paris, The French Natl. Inst. of Hlth. and Med. Res. U 1127, The Natl. Ctr. for Scientific Res. 7225, Toronto Western Hosp. Rm 4-431 West, Univ. of Cologne, Univ. Col. London Inst. of Neurol., Capital Med. Univ., PLA Gen. Hosp., Maastricht Univ. Med. Ctr., Univ. Hosp. Cologne, New York Univ. Langone Med. Center, Univ. of Florida, Univ. of Florida, Univ. of Florida, Univ. of Utah, Univ. of Utah.*

1:00 G44 **385.13** ● Regulation of orchestrated glial cell activation and neurodegeneration by anti-semaphorin 4D antibody pepinemab (VX15/2503) as a potential therapeutic strategy for Huntington's and Alzheimer's disease. E. EVANS*; T. FISHER; J. LEONARD; A. READER; V. MISHRA; C. MALLOW; A. HOWELL; E. SMITH; A. FEIGIN; M. ZAUDERER. *Vaccinex, NYU Langone Hlth.*

2:00 H1 **385.14** Abnormal electrocortical responses during vocalization as a neural correlate of the dystonic voice symptoms in spasmodic dysphonia. J. KONCZAK*; S. KHOSRAVANI; A. MAHNAN; Y. ZHANG; P. J. WATSON. *Univ. of Minnesota, Univ. of Minnesota.*

3:00 H2 **385.15** Effects of long term laryngeal vibrotactile stimulation in people with spasmodic dysphonia. N. ELANGOVAN*; A. MAHNAN; G. S. GODING, Jr; Y. ZHANG; P. WATSON; J. KONCZAK. *Univ. of Minnesota, Univ. of Minnesota, Univ. Minnesota, Univ. of Minnesota.*

4:00 H3 **385.16** First evidence that laryngeal vibration can improve voice symptoms in the voice disorder spasmodic dysphonia. A. MAHNAN*; S. KHOSRAVANI; P. WATSON; Y. ZHANG; J. KONCZAK. *Univ. of Minnesota, Harvard Univ., Univ. of Minnesota.*

1:00 H4 **385.17** Cortical oscillations in cervical dystonia and dystonic tremor. C. W. HESS; B. GATTO*; J. W. CHUNG; W. E. WANG; D. E. VAILLANCOURT. *Univ. of Florida, Univ. of Florida, Univ. of Minnesota, Univ. of Florida.*

2:00 H5 **385.18** Neurofibrillary tangles accelerate the degradation of fractal motor regulation. P. LI; L. YU; A. S. P. LIM; A. S. BUCHMAN; J. A. SCHNEIDER; D. A. BENNETT; K. HU*. *Brigham & Women's Hosp., Harvard Med. Sch., Rush Univ. Med. Ctr., Univ. of Toronto.*

3:00 H6 **385.19** Loss of iron metabolism regulation causes motor and behavioral defects. C. A. M. PORRAS*; M. C. GHOSH; H. WILSON-OLLIVIERRE; T. A. ROUAULT. *Eunice Kennedy Shriver NICHD, Brown Univ. Neuroscience-NIH Grad. Partnership Program.*

4:00 H7 **385.20** Loss of D2R-expressing torsinA impairs sensory-evoked brain activation and connectivity in a mouse model of dystonia. J. C. DESIMONE; H. LIU*; Y. LIU; Y. LI; D. E. VAILLANCOURT. *Univ. of Florida, Univ. of Florida, Univ. of Florida, Univ. of Florida.*

1:00 H8 **385.21** Assessment of the effects of Kinesiotaping on musical motor performance in musicians suffering from focal hand dystonia. A pilot study. R. BRAVI; C. I. IOANNOU; S. CAPPELLI; A. ANDORLINI; E. J. COHEN; E. O. ALTENMULLER; D. MINCIACCHI*. *Univ. of Florence, Hanover Univ. of Music, Drama and Media.*

2:00 H9 **385.22** Overexpression of a torsina paralog rescues motor symptoms and neuropathology in a mouse model of DYT1 dystonia. J. LI*; S. PAPPAS; W. DAUER. *Univ. of Michigan.*

3:00 H10 **385.23** Increased randomness in motor activity predicts cognitive impairment in older adults. P. LI*; L. YU; A. S. P. LIM; A. S. BUCHMAN; J. A. SCHNEIDER; D. A. BENNETT; K. HU. *Brigham & Women's Hosp., Harvard Med. Sch., Rush Univ. Med. Ctr., Univ. of Toronto.*

4:00 H11 **385.24** The mechanism of motor dysfunction in Prrt2-deficient mouse. S. LOU*; Z. XIONG. *Inst. of Neuroscience, Chinese Acad. of Scie.*

POSTER

386. Motor-Neuron Disease Mechanisms

Theme C – Neurodegenerative Disorders and Injury

Mon. 1:00 PM – *McCormick Place, Hall A*

1:00 H12 **386.01** UCHL1 is necessary and sufficient for maintaining cytoarchitectural integrity of upper motor neurons. B. GENC*; J. H. JARA; S. S. SANCHEZ; A. K. B. LAGRIMAS; C. G. BROOKS; N. KOCAK; Y. ZHU; P. OZDINLER. *Northwestern Univ. Feinberg Sch. of Med.*

2:00 H13 **386.02** Transforming growth factor beta signaling in motor neurons in the $SOD1^{G93A}$ mouse model. C. BRAINE*; D. CASTRO; I. HUBBARD; M. CUEVAS; S. MANIATIS; R. BONNEAU; T. MANIATIS; H. PHATNANI. *Columbia Univ., New York Univ., New York Genome Ctr.*

3:00 H14 **386.03** MCP1-CCR2 and neuroinflammation in the ALS motor cortex with TDP-43 pathology. N. KOCAK*; J. JARA; M. GAUTAM; E. F. XIE; Q. MAO; E. H. BIGIO; P. OZDINLER. *Northwestern Univ. Feinberg Sch. of Med., Les Turner ALS Ctr., Northwestern Univ.*

4:00 H15 **386.04** P2X4 ATP-gated receptor channels play key role in amyotrophic lateral sclerosis pathogenesis. E. BERTIN*; A. MARTINEZ; A. FAYOUX; P. FERNAGUT; S. S. BERTRAND; E. BOUÉ-GRABOT. *Univ. Of Bordeaux, Univ. of Bordeaux.*

1:00 H16 **386.05** Role of arginine methylation in the intercellular transmission of FUS. N. WATANABE*; K. MATSUKAWA; M. SUAREZ-CALVET; D. DORMANN; T. HASHIMOTO; T. IWATSUBO. *The Univ. of Tokyo, Barcelona βeta Brain Res. Center, Pasqual Maragall Fndn., BioMedical Ctr. (BMC), Ludwig-Maximilians-University Munich.*

2:00 H17 **386.06** ● Characterization of SOD1G93A crossed with CDNF KO mouse line. F. DE LORENZO*; A. E. KORPELAINEN; M. LINDAHL; M. SAARMA; M. H. VOUTILAINEN. *Univ. of Helsinki.*

• Indicated a real or perceived conflict of interest, see page 150 for details.
▲ Indicates a high school or undergraduate student presenter.
* Indicates abstract's submitting author

3:00 H18 **386.07** Preclinical evaluation of phytocannabinoid-based neuroprotective therapies for the treatment of amyotrophic lateral sclerosis using TDP43 transgenic mice. L. GARCÍA TOSCANO*; C. RODRIGUEZ-CUETO; W. HIND; R. GRAY; J. FERNÁNDEZ-RUIZ; E. DE LAGO. *Dept. de Bioquímica y Biología Molecular, Facultad de Medicina, Univ. Complutense, Inst. Ramón y Cajal de Investigación Sanitaria (IRYCIS), Ctr. de Investigación Biomédica en Red de Enfermedades Neurodegenerativas (CIBERNED), GW Res. Ltd.*

4:00 H19 **386.08** ● C9orf72 promotes autophagy-lysosomal functionsand has dose-dependent roles against motor deficits in a mouse model of C9ALS/FTD. C. LIANG*; Q. SHAO; Q. CHANG; W. ZHANG; M. YANG; J. CHEN. *Univ. of Georgia, USC.*

1:00 H20 **386.09** Comparative analysis of resistant and vulnerable neuromuscular junction in a mouse ALS model. F. PROVOST*; R. NADEAU; D. ARBOUR; M. GAUTHIER; M. LAVALLÉE-ADAM; B. COULOMBE; R. ROBITAILLE. *Univ. de Montréal, Groupe de Recherche du Système Nerveux Central, Univ. of Ottawa, Inst. de Recherches Cliniques de Montréal.*

2:00 H21 **386.10** ▲ Aberrant cap-dependent translation in TDP-43 model of ALS. N. PENA*; R. BEAR; D. ZARNESCU; B. ZAEPFEL; S. YAMADA. *Univ. of Arizona.*

3:00 H22 **386.11** C-bouton activity is detrimental to muscle innervation in a mouse model of amyotrophic lateral sclerosis. T. L. WELLS; J. R. MYLES; T. AKAY*. *Dalhousie University, Brain Repair Ctr.*

4:00 H23 **386.12** Knockdown of GADD34 ameliorates ALS in mutant SOD1 mice. A. CAMARENA*; G. D. GHADGE; Y. SONOBE; C. R. DRIGOTAS; R. P. ROOS. *Univ. of Chicago Pritzker Sch. of Med., Dept. of Neurology, Univ. of Chicago Med. Ctr.*

1:00 H24 **386.13** Loss of function of astroglial exosomes in the SOD1G93A mouse model of ALS. S. JIN*; T. YANG; Y. MEN; J. M. YELICK; R. JARVIS; Y. YANG. *Tufts Univ., Tufts Univ., Tufts Univ. Sch. of Med.*

2:00 H25 **386.14** Mitochondrial dysfunction in the gastrocnemius-associated motorneurons of muscle-synthesized BDNF- deficient mice. M. L. CAWLEY; R. L. MUELLER; C. M. KIMBER; E. N. OTTEM*. *Northern Michigan Univ.*

3:00 H26 **386.15** ▲ Cortical interneuron-mediated inhibition delays the onset of amyotrophic lateral sclerosis in the SOD1 mouse model. C. S. KHADEMULLAH; A. J. AQRABAWI; K. M. PLACE; Z. DARGAEI; X. LIANG; J. C. PRESSEY*; S. BEDARD; J. YANG; D. GARAND; A. GASECKA; D. CÔTÉ; Y. DE KONINCK; J. KEITH; L. ZINMAN; J. ROBERTSON; J. KIM; M. A. WOODIN. *Univ. of Toronto, Univ. of Toronto, CERVO Brain Res. Inst., Sunnybrook Res. Inst., Tanz Ctr. for Res. into Neurodegenerative Dis.*

4:00 H27 **386.16** Inhibition of collapsin response mediator protein2 phosphorylation ameliorates motor phenotype of ALS model mice expressing SOD1G93A. Y. NUMATA-UEMATSU*; S. WAKATSUKI; S. NAGANO; M. SHIBATA; K. SAKAI; N. ICHINOHE; K. MIKOSHIBA; T. OHSHIMA; N. YAMASHITA; Y. GOSHIMA; T. ARAKI. *Tohoku Univ. Hosp., Natl. Inst. Neurosci, NCNP, Osaka Univ. Grad. Sch. of Med., Natl. Inst. of Neuroscience, Natl. Ctr. of Neurol. & Psychiatry, RIKEN Brain Sci. Inst. - Wako, Waseda Univ., Juntendo Univ., Yokohama City Univ. Sch. Med.*

1:00 H28 **386.17** ▲ Characterization of metabolic defects across multiple models of ALS. H. BALL*; E. MANZO; D. C. ZARNESCU. *Univ. of Arizona, Univ. of Arizona.*

2:00 H29 **386.18** Knocking down the metabotropic glutamate receptor 5 in the $SOD1^{G93A}$ mouse model of amyotrophic lateral sclerosis ameliorates the reactive phenotype of spinal cord astrocytes. C. USAI*; C. TORAZZA; F. PROVENZANO; S. RAVERA; T. BONIFACINO; G. BONANNO; M. MILANESE. *Natl. Rese Council, Dept. of Pharmacy, Unit of Pharmacol. and Toxicology Univ. of Genova, Italy, Dept. of Exptl. Medicine, Unit of Human Anatomy, Univ. of Genova, Italy, Ctr. of Excellence for Biomed. Research, Univ. of Genova, Italy, IRCCS - San Martino Polyclinic Hospital, Genova, Italy.*

3:00 H30 **386.19** ● Behavioral characterization of low copy SOD1 G93A transgenic mice. S. FLUNKERT; R. RABL*; A. KASZA; V. NIEDERKOFLER; E. AUER; B. HUTTER-PAIER. *QPS Austria GmbH.*

4:00 H31 **386.20** Delayed disease onset and progression in $SOD1^{G37R}$/Thy1-YFP16 ALS mouse model. É. MARTINEAU; F. FIORE*; S. MARCHAND; R. ROBITAILLE. *Univ. De Montréal, Groupe de Recherche sur le Système Nerveux Central (GRSNC).*

1:00 H32 **386.21** Altered expression of circadian clock genes in mice expressing amyotrophic lateral sclerosis-linked mutant superoxide dismutase 1. K. M. KILLOY*; B. A. HARLAN; M. PEHAR; M. R. VARGAS. *Med. Univ. of South Carolina.*

2:00 H33 **386.22** Elevated expression of the ALS-linked DNA/RNA-binding protein FUS in astrocytes induces reactivity and spinal motor neuron death *in vivo*. K. MCAVOY; B. K. JENSEN*; N. M. HEINSINGER; K. MAYER; T. WESTERGARD; A. C. LEPORE; A. R. HAEUSLER; D. TROTTI; P. PASINELLI. *Thomas Jefferson Univ.*

POSTER

387. Mechanisms of Neurotoxicity II

Theme C – Neurodegenerative Disorders and Injury

Mon. 1:00 PM – *McCormick Place, Hall A*

1:00 H34 **387.01** A human induced pluripotent stem cell-derived neuronal model to assess developmental neurotoxicity upon exposure to chemical mixtures. F. PISTOLLATO*; E. MENDOZA; S. BOPP; C. NUNES; A. WORTH; A. BAL-PRICE. *European Commission, Joint Res. Ctr., Univ. of Lausanne.*

2:00 H35 **387.02** NADPH oxidase and endoplasmic reticulum stress contribute to neuroinflammation and neurodegeneration in postmortem human alcoholic brain. L. QIN*; R. P. VETRENO; F. T. CREWS. *Univ. North Carolina, Sch. Med.*

3:00 H36 **387.03** Ketamine reduces reactive oxygen species in zebrafish *in vivo*. J. KANUNGO*; Q. GU; S. F. ALI; B. ROBINSON; M. DUMAS. *Natl. Ctr. For Toxicological Research/Food and Drug Admin., FDA Natl. Ctr. for Toxicological Res., Neurochemistry Lab, Div. of Neurotoxicology, Natl. Ctr. Toxicological Res/Fda, Natl. Ceter for Toxicological Research, US Food and Drug Admin., The Bionetics Corp.*

4:00 H37 **387.04** Micrornas expressed differentially in the hippocampus of female and male rodents after chronic alcohol treatment. M. CHOI*; J. HAN; D. KIM. *Addiction Inst.*

• Indicated a real or perceived conflict of interest, see page 150 for details.
▲ Indicates a high school or undergraduate student presenter.
* Indicates abstract's submitting author

1:00 H38 **387.05** Early synaptopathology in organophosphate-exposed hippocampal explants is governed by neuron-specific β_1 integrin responses. M. ALMEIDA; B. A. BAHR; K. G. FARIZATTO*. *Univ. of North Carolina at Pembroke, Univ. of North Carolina at Pembroke.*

2:00 H39 **387.06** Transient receptor potential channel 1 involved in blood brain barrier disruption in mice treated with chlorpyrifos. W. LI*; M. EHRICH. *Virginia Tech.*

3:00 H40 **387.07** Accumulation of cytoplasmic DNA in ATM deficiency activates the microglial viral response system with neurotoxic consequences. F. X. SONG*; F. MA; K. HERRUP. *Hong Kong Univ. of Sci. and Technol., Univ. of Pittsburgh Sch. of Med.*

4:00 H41 **387.08** Sevoflurane and propofol have different potency to provide dual effects of neuroprotection and neurotoxicity in Alzheimer's disease cells. X. GAO; X. WANG; L. ZHANG; G. LIANG; R. MUND; H. WEI. *Univ. of Pennsylvania, Univ. of Pennsylvania.*

1:00 H42 **387.09** The impact of early developmental arsenic exposure on hippocampal synaptic plasticity. K. F. W. FOLEY*; D. A. CORY-SLECHTA; H. XIA. *Univ. of Rochester Med. Ctr., Univ. of Rochester Med. Ctr., Univ. of Rochester Med. Ctr.*

2:00 H43 **387.10** Neurogenesis in the adult hippocampus is affected via glial cells in the rat model of delayed carbon monoxide encephalopathy. S. OCHI*; K. SEKIYA; N. ABE; T. NISHIHARA; Y. YOSHINO; J. IGA; S. UENO. *Ehime Univ. Grad. Sch. of Med., Ehime Univ. Grad. Sch. of Med.*

3:00 H44 **387.11** Ketamine-induced adverse effects on the dopaminergic and serotonergic neuronal development is prevented by N-acetylcysteine in zebrafish. Q. GU*; B. ROBINSON; J. KANUNGO. *FDA Natl. Ctr. for Toxicological Res.*

4:00 H45 **387.12** Primary cilia related genes and neonatal anesthesia neurotoxicity in congenital heart disease. F. SOMAA; N. SARIC*; L. WANG; R. JONAS; K. HASHIMOTO-TORII; N. ISHIBASHI. *Children's Natl. Med. Ctr.*

1:00 H46 **387.13** Long-lasting behavioral effects of embryonic exposure of zebrafish to retinoic acid receptor acting environmental pesticides. Z. R. HOLLOWAY*; A. B. HAWKEY; D. UNAL; C. L. DEAN; A. AKHIESH; S. W. KULLMAN; E. D. LEVIN. *Duke Univ. Med. Ctr., Duke Univ., North Carolina State.*

2:00 I1 **387.14** ▲ Cd promotes an antioxidant response in rat hippocampus. G. PULIDO-FERNANDEZ*; S. TREVIÑO; E. BRAMBILA; R. A. VAZQUEZ; P. AGUILAR-ALONSO; J. MORÁN-PERALES; A. HANDAL SILVA; J. GUEVARA; G. FLORES; A. DÍAZ. *Facultad de Ciencias Químicas, BUAP, BUAP, BUAP, UNAM.*

3:00 I2 **387.15** Protein PICALM has an important role in neuronal health and brain homeostasis. D. LAZIC*; A. MONTAGNE; Z. DAI; Z. ZHAO; K. KISLER; A. SAGARE; T. MAEDA; B. ZLOKOVIC. *USC, Brigham and Women's Hospital, Harvard Med. Sch.*

4:00 I3 **387.16** Abnormal activation of NMDA receptors by glufosinate ammonium. D. WOO*; Y. KIM; D. KANG. *Korea Inst. of Toxicology.*

1:00 I4 **387.17** Beta-methylamino-L-alanine induces neuronal injury via kinase dependant mechanisms in rat primary neuronal cultures. C. DUCHEMIN-NEVEU; E. ANDRIAMBELOSON*; S. WAGNER. *Neurofit SAS.*

2:00 I5 **387.18** ▲ Investigating interactions between microglia and astrocytes as models of hand. D. A. ODHIAMBO*. *Univ. of South Carolina.*

3:00 I6 **387.19** ▲ Resveratrol prevents the ethanol-induced oxidative stress on hippocampus of Wistar rats. D. JUÁREZ SERRANO*; I. CESAR-ARTEAGA; F. RAMOS-COLLAZO; J. C. MORALES-MEDINA; A. D. DIAZ-FONSECA; P. AGUILAR-ALONSO. *Benemerita Univ. Autonoma De Puebla, Benemerita Univ. Autonoma De Puebla, Ctr. De Investigacion En Reproduccion Animal, Benemerita Univ. Autonoma De Puebla.*

4:00 I7 **387.20** ▲ Resveratrol protects from oxidative stress produced by chronic administration of ethanol in rat cerebellum. C. GARCÍA-OLVERA*; D. JUÁREZ SERRANO; I. CESAR ARTEAGA; G. PULIDO-FERNANDEZ; A. R. NAVARRO-CRUZ; L. G. GARCÍA-ALBARRÁN; P. AGUILAR-ALONSO. *Benemérita Univ. Autónoma De Puebla, Benemérita Univ. Autónoma de Puebla, Benemerita Univ. Autonoma De Puebla, BUAP, BUAP.*

1:00 I8 **387.21** ▲ Vanadium pentoxide inhalation effects on motor performance and motor cortex cytology. O. MEJÍA-GARCÍA; M. RODRÍGUEZ-ALCÁNTARA; E. MONTIEL-FLORES; A. GUTIÉRREZ-VALDEZ; L. REYNOSO-ERAZO*; J. ESPINOSA-VILLANUEVA; J. ORDOÑEZ-LIBRADO; M. AVILA-COSTA. *Univ. of Mexico, Univ. of Mexico.*

2:00 I9 **387.22** The effects of different combinations of plant extracts and traditional chinese medicine on hydrogen peroxide- and thapsigargin-induced neurotoxicity. K. SUEN*; Y. CHEUNG; T. HSU; S. WONG; S. CHAN; H. CHENG; S. LAW; Y. CHONG; K. HUNG; H. WONG; K. WAN; H. LEUNG; K. LIU; T. LI; W. TANG; M. LIN; H. CHEUNG; R. C. CHANG. *Po Leung Kuk Laws Fndn. Col., Lab. of Neurodegenerative Diseases, LKS Fac. of Medicine, Univ. of Hong Kong.*

3:00 I10 **387.23** ● Double-hit of inflammation and general anesthesia causes persistent impairment in executive function. S. KHODAEI*; D. WANG; B. A. ORSER. *Univ. of Toronto, Univ. Toronto.*

4:00 I11 **387.24** Protective effects of astrocyte-specific deletion of yin yang 1 in the substantia nigra on manganese-induced dopaminergic neuronal injury in mice. J. A. JOHNSON*, Jr; E. PAJARILLO; A. RIZOR; M. ASCHNER; E. LEE. *Florida A&M Univ., Albert Einstein Sch. of Med.*

1:00 I12 **387.25** ● General anesthesia causes a persistent decrease in brain-derived neurotrophic factor in the hippocampus. A. ALAVIAN-GHAVANINI*; M. A. MANZO; D. WANG; L. KAUSTOV; B. A. ORSER. *Univ. of Toronto, Sunnybrook Hlth. Sci. Ctr., Univ. of Toronto.*

2:00 I13 **387.26** Chlorpyrifos (CPF)-induced neurobehavioral deficits and neuropathology in adult male rat. Y. TSAI*; N. LEVOE; J. VU; D. A. BRUUN; P. J. LEIN. *Univ. of California, Davis.*

3:00 I14 **387.27** Evaluation of glutamate homeostasis, ATPases and depressive status in rats subjected to mild hyperhomocysteinemia. T. M. DOS SANTOS*; C. SIEBERT; L. D. BOBERMIN; A. Q. DOS SANTOS; C. A. NETTO; A. T. S. WYSE. *Univ. Federal Do Rio Grande Do Sul.*

4:00 I15 **387.28** Alcohol drinking decreases the glutamate aspartate transporter to enhance methamphetamine excitotoxicity. A. L. BLAKER*; E. R. MOORE; B. K. YAMAMOTO. *Univ. of Toledo, Indiana Univ. Sch. of Med.*

- ● Indicated a real or perceived conflict of interest, see page 150 for details.
- ▲ Indicates a high school or undergraduate student presenter.
- * Indicates abstract's submitting author

1:00 I16 **387.29** Nasal administration of mesenchymal stem cells reverses chemotherapy-induced peripheral neuropathy. N. BOUKELMOUNE*; J. MA; G. O. LAUMET; A. KAVELAARS; C. J. HEIJNEN. *Univ. of Texas MD Anderson Cancer Ctr.*

POSTER

388. Neurodegeneration and Injury: Neuroinflammation

Theme C – Neurodegenerative Disorders and Injury

Mon. 1:00 PM – *McCormick Place, Hall A*

1:00 I17 **388.01** Alzheimer's and Parkinson's disease modeling using iPSC derived neurons, astrocytes and microglia for screening of neurotoxic and/or neuroprotective compounds. S. ANKAM*; K. GORDON; R. BASA; C. T. MARTIN, III; C. HANDLEY; S. L. FENG; J. V. KARPIAK; T. ROHN; J. PRICE; P. MCDONOUGH. *Vala Sciences, Inc, Boise State Univ., The Scintillon Inst.*

2:00 I18 **388.02** Investigating the contrasting functional roles of NCOA7 and NCOA7B during neuroinflammation. E. CASTROFLORIO*; S. CORROCHANO; M. J. FINELLI; J. DEN-HOED; P. L. OLIVER. *MRC Harwell Inst., Univ. of Oxford.*

3:00 I19 **388.03** ● Gamma frequency sensory stimulation induces neuroimmune signaling cascade. K. M. GARZA*; B. BORRON; S. AMIGUES; J. DAVIS; A. PYBUS; S. SANKAR; M. ATTOKAREN; L. WOOD; A. C. SINGER. *Emory Univ., Georgia Inst. of Technol., Georgia Inst. of Technol.*

4:00 I20 **388.04** Modelling the *Toxoplasma gondii infection in human neural cells: Role of metalloproteinases and neuroinflammation.* E. C. LOIOLA*; R. M. MARIANTE; P. TRINDADE; L. O. PORCIUNCULA; S. K. REHEN. *IDOR, Oswaldo Cruz Inst., UNIRIO, UFRGS, UFRJ.*

1:00 I21 **388.05** What happened to the *in vitro* blood-brain barrier (BBB) model with activated microglia in the brain side-activated microglia can trigger the BBB disruption and modulate the related chemokines and cytokines via the interactions with astrocytes and blood vessels. K. SATO*; K. HOSHIKAWA; Y. SHIGEMOTO-MOGAMI. *Natl. Inst. Hlth. Sci., Natl. Inst. Hlth. Sci.*

2:00 I22 **388.06** ● Apabetalone epigenetically inhibits monocyte adhesion to brain endothelial cells by downregulating key neuroinflammation markers *in vitro* and *in vivo.* S. WASIAK*; E. DAZE; L. M. TSUJIKAWA; S. DAS; L. FU; D. GILHAM; B. D. RAKAI; S. C. STOTZ; C. D. SARSONS; D. STUDER; K. D. RINKER; R. JAHAGIRDAR; N. C. W. WONG; M. SWEENEY; J. O. JOHANSSON; E. KULIKOWSKI. *Resverlogix Corp., Univ. of Calgary, Resverlogix Inc.*

3:00 I23 **388.07** Therapeutic strategies for immunomodulation of peripheral myeloid cells in Alzheimer's disease. A. D. THOME*; A. FARIDAR; D. R. BEERS; J. R. THONHOFF; W. ZHAO; S. WEN; M. PASCUAL; J. C. MASDEU; S. H. APPEL. *Houston Methodist Neurolog. Inst., Nantz Natl. Alzheimer Ctr.*

4:00 I24 **388.08** Remyelination of regenerating CNS axons: The optic nerve model. S. DE LIMA*; N. M. S. PORTS; N. P. BISCOLA; N. ZHANG; L. A. HAVTON; P. A. ROSENBERG; L. BENOWITZ. *Boston Childrens Hosp. - Harvard Med. Sch., USP, UCLA, UCLA, Boston Children's Hosp.*

1:00 I25 **388.09** Cerebrospinal fluid neopterin as a marker for central nervous system inflammation in sudden infant death syndrome (SIDS). M. RIEHS*; H. HARB; B. W. OKATY; E. HAAS; B. PAUNOVIC; K. HYLAND; M. GORMAN; G. T. BERRY; R. D. GOLDSTEIN; R. L. HAYNES. *Boston Children's Hosp., Boston Children's Hosp., Harvard Med. Sch., Rady Children's Hosp., San Diego County Office of the Med. Examiner, MNG Labs., Boston Children's Hosp., Boston Children's Hospital, Harvard Med. Sch., Boston Children's Hospital, Harvard Med. Sch.*

2:00 I26 **388.10** IL-2 enhances IFNγ signals in subpopulations of T lymphocytes from treatment naïve relapsing remitting multiple sclerosis (RRMS) patients. B. J. POPE*; V. SHARMA; C. RAMAN; S. BRIDGES; W. MEADOR. *Univ. of Alabama At Birmingham, Univ. of Alabama at Birmingham, Univ. of Alabama at Birmingham Sch. of Med., Univ. of Alabama Sch. of Med., Univ. of Alabama Sch. of Med.*

3:00 I27 **388.11** EP2 antagonism blocks monocyte brain recruitment after status epilepticus. N. H. VARVEL*; A. HSIEH; T. GANESH; R. J. DINGLEDINE. *Emory Univ., Emory Univ., Emory Univ. Sch. Med.*

4:00 I28 **388.12** The role of mitochondria associate er membranes in the specific subcellular localization of inflammatory responsive microRNAs in the mammalian brain. W. WANG*; P. PRAJAPATI; P. T. NELSON; J. E. SPRINGER. *Univ. Kentucky, Univ. of Kentucky, Univ. of Kentucky, Univ. Kentucky Sch. Med.*

POSTER

389. Neurotoxicity, Inflammation, and Neuroprotection: Preclinical Studies II

Theme C – Neurodegenerative Disorders and Injury

Mon. 1:00 PM – *McCormick Place, Hall A*

1:00 I29 **389.01** L-DOPA-induced dyskinesia in mice leads to the production of astrocyte-derived TNF-alpha through a glutamate-dependent mechanism. M. DOS SANTOS PEREIRA*; G. DIAS DE ABREU; J. ROCCA; S. HAMADAT; R. RAISMAN-VOZARI; P. MICHEL; E. DEL BEL. *Univ. De São Paulo, Inst. du Cerveau et de la Moelle Épinière, Inst. du Cerveau et de la Moelle Épinière.*

2:00 I30 **389.02** The involvement of NG2 expressing cells in methamphetamine induced neurotoxicity and neuroprotective role of melatonin in rat brain. Z. M. HEIN*; N. KRAIWATTANAPIROM; B. CHETSAWANG. *Inst. of Mol. Biosciences, Mahidol Univ.*

3:00 I31 **389.03** The effects of nadph oxidase inhibitor, diapocynin, treatment in diisopropylfluorophosphate (DFP)- induced long-term neurotoxicity. M. PUTRA*; M. GAGE; G. GASSER; S. SHARMA; V. ANANTHARAM; T. THIPPESWAMY. *Iowa State Univ., PK Biosci.*

4:00 I32 **389.04** Enriched environment housing protects the visual pathway alterations against experimental glaucoma in adult rats. M. GONZÁLEZ FLEITAS*; J. DEVOUASSOUX; M. L. ARANDA; H. DIEGUEZ; D. DORFMAN; S. CALANNI; M. CHIANELLI; R. E. ROSENSTEIN. *Sch. of Medicine, Univ. of Buenos Aires.*

1:00 I33 **389.05** Transcriptomic changes associated with neuroinflammation in a mouse model for cLINCL: Role of microglia. M. S. DOMOWICZ*; W. CHAN; C. B. WARE; J. ANDRADE; N. B. SCHWARTZ. *The Univ. of Chicago, The Univ. of Chicago.*

● Indicated a real or perceived conflict of interest, see page 150 for details.
▲ Indicates a high school or undergraduate student presenter.
* Indicates abstract's submitting author

2:00 I34 **389.06** Bacterial pneumonia elicits structural damage to neurons. M. T. LIN*; A. C. JAGER; M. GREENE; A. ANDREW-FORTUNE; A. M. SCOTT. *Univ. of South Alabama, Dillard Univ.*

3:00 I35 **389.07** Expression profiles of noncoding RNAs in the CSF of PPMS and RRMS patients. A. IACOANGELI*; N. FAVRET; C. ARNDTSEN; S. A. SADIQ. *Tisch MS Res. Ctr. of New York.*

4:00 I36 **389.08** Obesity impairs cognition and leads to morphological and neurogenic alterations. C. FERNANDES; L. FORNY-GERMANO; S. FERREIRA; J. JÚNIOR; F. DE FELICE. *Federal Univ. of Rio de Janeiro, São Paulo Univ.*

1:00 I37 **389.09** Serine racemase expression in hippocampal neurons and astrocytes is modified in aging and by inflammation. S. BELTRAN-CASTILLO*; M. TRIOLO; R. VON BERNHARDI. *Pontificia Univ. Católica de Chile.*

2:00 I38 **389.10** The effect of chronic neuroinflammation on the kinetics of Dextran clearance from the brain parenchyma. S. SURESH*; J. LARSON; K. JENROW. *Central Michigan Univ.*

3:00 I39 **389.11** Using patient iPSC derived motor neurons as a model for leukoencephalopathy with brainstem and spinal Ccord Involvment and lactate elevation. B. O'BRIEN*; C. L. NEMETH; P. HUBO; S. N. TOMLINSON; A. SMITH; A. FATEMI. *Kennedy Krieger Inst., Kennedy Krieger Inst., Kennedy Krieger Inst. / Johns Hopkins, Johns Hopkins Univ.*

4:00 I40 **389.12** tcMEP and tcSEP in myelin oligodendrocyte glycoprotein (MOG) induced experimental autoimmune encephalomyelitis (EAE) in mice. Y. SHULMAN; Y. LEVI; L. FINKELSTEIN; I. LEVI; A. SCHAUDER; D. CASTEL; S. B. MEILIN*. *MD Biosci., Tel Avivi Univ.*

1:00 I41 **389.13** ● Characterization of relevant mouse models for new biomarker. V. NIEDERKOFLER; T. LOEFFLER; E. AUER; S. FLUNKERT; J. NEDDENS*; B. HUTTER-PAIER. *QPS Austria GmbH.*

2:00 I42 **389.14** Effect of Myrtillocactus geometrizans (garambullo) concentrations on the memory and the glucose, lipid peroxidation and neurotransmitter levels in the frontal cortex of rats high sugar diet fed. C. SANDOVAL SALAZAR*; A. ALAMO LEON; S. N. JIMENEZ GARCIA; X. S. RAMIREZ GOMEZ; V. BELTRAN CAMPOS. *Univ. De Guanajuato, Univ. de Guanajuato.*

3:00 I43 **389.15** Rab10 mediated regulation of endocytic vesicle trafficking. Z. LIU*; A. B. WEST. *Duke Univ., UAB.*

4:00 I44 **389.16** Reactive oxygen species-responsive drug delivery system for balanced anti-oxidation of inflamed brain tissue. Y. SEO; Y. HONG; J. W. MITCHELL; M. U. GILLETTE*; H. KONG. *Univ. of Illinois at Urbana-Champaign, Univ. of Illinois at Urbana-Champaign, Univ. of Illinois at Urbana-Champaign, Univ. of Illinois at Urbana-Champaign.*

1:00 J1 **389.17** Effect of metabolic syndrome on the clearence of amyloid beta peptide through the blood brain barrier and neuroinflammation in rat hippocampus. C. F. AGUILAR-GAMAS*, Sr; E. MARTINEZ-ABUNDIS; E. DE LA CRUZ-HERNANDEZ; N. GOMEZ-CRISOSTOMO. *Univ. Juarez Autonoma de Tabasco.*

2:00 J2 **389.18** ● Anti-inflammatory effects of SM07883, a novel, potent, and selective oral DYRK1A inhibitor in mouse models of neuroinflammation. S. ANDERSON*; M. W. AKHTAR; K. DUONG-POLK; C. LAI; B. GUNER; S. HABROUN; B. MELCHIOR. *Samumed, LLC.*

3:00 J3 **389.19** Aberrant miRNA expression in multiple system atrophy contributes to neuroinflammation and may affect oligodendrocyte maturation. T. KIM; L. E. CROMBERG; P. A. DESPLATS*. *UCSD, UCSD.*

4:00 J4 **389.20** Delirium is associated with inflammation and neuronal injury. C. P. C. CASEY*; H. L. LINDROTH; R. MOHANTY; T. BALLWEG; Z. FARAHBAKHSH; S. TWADELL; B. M. KRAUSE; V. PRABHAKARAN; K. BLENNOW; H. ZETTERBERG; R. D. SANDERS. *Univ. of Wisconsin - Madison, Univ. of Wisconsin-Madison, Sch. of Medicin, Indiana Univ. Sch. of Med., Univ. of Wisconsin-Madison, Univserity of Wisconsin - Madison, Univ. of Wisconsin-Madison, Univ. of Wisconsin Madison, Sahlgrenska Acad. at the Univ. of Gothenburg, Sahlgrenska Univ. Hosp., UCL Inst. of Neurol., UCL, Univ. of Wisconsin, Madison.*

POSTER

390. Ischemic Stroke III

Theme C – Neurodegenerative Disorders and Injury

Mon. 1:00 PM – *McCormick Place, Hall A*

1:00 J5 **390.01** Neuroprotective effects of a novel carnosine-hydrazide derivative on hippocampal CA1 damage after cerebral ischemia. M. MORIOKA*; K. NOGUCHI; T. F. ALI; M. OHTSUKA. *Kurume Med. Sch., Kurume UNiv.Sch Med., Minia Univ., Kumamoto Univ.*

2:00 J6 **390.02** Hyperoxic resuscitation following canine cardiac arrest increases cerebellar Purkinje neuronal death. G. FISKUM*; D. LEE; T. PEARSON; J. PROCTOR; R. E. ROSENTHAL. *Univ. of Maryland Sch. of Med., Univ. of Maryland Sch. of Med.*

3:00 J7 **390.03** Search of novel purinergic P2x4 receptor antagonists for the treatment of ischemic stroke. P. SRIVASTAVA*; V. K. RAO; B. T. LIANG; T. O'BRIEN; R. VERMA. *Uconn Hlth., Atomwise.*

4:00 J8 **390.04** Intra-arterial mesenchymal stromal cell delivery through cardiopulmonary bypass for neuroprotection in a juvenile porcine model. T. MAEDA*; K. SARKISLALI; N. SARIC; F. A. SOMAA; C. LEONETTI; G. R. STINNETT; Z. DHARI; B. LEWIS; C. HSU; K. PANCHAPAKESAN; R. ULREY; K. GRECCO; P. VYAS; Y. IMAMURA KAWASAWA; T. TU; K. HASHIMOTO-TORII; P. J. HANLEY; J. A. FRANK; R. A. JONAS; N. ISHIBASHI. *Children's Natl. Hlth. Syst., US Natl. Inst. of Hlth. (NIH), Howard Univ., Children's Natl. Hlth. Syst., Children's Natl. Hlth. Syst., Children's Natl. Hlth. Syst., Pennsylvania State Univ. Col. of Med., Children's Natl. Hlth. Syst.*

1:00 J9 **390.05** 4R, a cembranoid compound, improves sensorimotor and cognitive functions after ischemic stroke. J. WANG*; J. WANG; J. HAO. *Univ. of Cincinnati.*

2:00 J10 **390.06** Neuroprotective effects of palmitic acid methyl ester on neuroinflammation and mitochondrial function in cerebral ischemia. C. Y. WU*; A. COUTO E SILVA; G. A. CLEMONS; R. H. LEE; H. LIN. *LSU Hlth. Sci. Ctr. Shreveport, LSU Hlth. Sci. Ctr. Shreveport.*

3:00 J11 **390.07** Effects of deletion of peroxiredoxins II on bilateral common carotid artery occlusion-induced impairments of hippocampal function. Y. JANG*; J. HAN. *Konkuk Univ.*

• Indicated a real or perceived conflict of interest, see page 150 for details.
▲ Indicates a high school or undergraduate student presenter.
* Indicates abstract's submitting author

4:00 J12 **390.08** LFP based analysis of brain injured anesthetized animals undergoing closed-loop intracortical stimulation. A. AVERNA; F. BARBAN*; D. J. GUGGENMOS; R. J. NUDO; M. CHIAPPALONE. *Inst. Italiano Di Tecnologia, Univ. of Genoa, Univ. of Kansas Med. Ctr., Univ. of Kansas Med. Ctr.*

1:00 J13 **390.09** Neuropeptide Y modulation via protein arginine methyltransferase in cerebral ischemia. H. POSSOIT*; A. COUTO E SILVA; C. Y. WU; C. T. CITADIN; R. H. LEE; H. LIN. *LSU Hlth. Sci. Ctr. Shreveport, LSU Hlth. Sci. Ctr. Shreveport, LSU Hlth. Sci. Ctr. Shreveport.*

2:00 J14 **390.10** Phytoestrogen isoflavone increases brain aspartate levels and protects against ischemic stroke injury. S. KHANNA; S. C. GNYAWALI; H. HARRIS; M. BALCH; S. NIMJEE; C. L. RINK*. *Indiana Universty, The Ohio State Univ. Wexner Med. Ctr.*

3:00 J15 **390.11** Dendrimer-based n-acetyl-l-cysteine therapy improves long term outcome after cardiac arrest in rat model. H. R. MODI*; Q. WANG; E. S. SMITH; S. J. BERTRAND; S. KANNAN; R. KANNAN; N. V. THAKOR. *Johns Hopkins Univ., Johns Hopkins Univ. Sch. of Med., Johns Hopkins Unversity Sch. of Med., Johns Hopkins Univ., Natl. Univ. of Singapore.*

4:00 J16 **390.12** ▲ Effect of endogenous estrogen fluctuations on the post-ischemic innate inflammation in the brain of female rats. V. G. REDDY*; C. FURONES; J. DE RIVERO VACCARI; A. P. RAVAL. *Univ. of Miami, The Miami Project to Cure Paralysis.*

1:00 J17 **390.13** Microbiota immune cell interaction: The critical role of gut metabolites in stroke. C. BENAKIS*; R. SADLER; D. FINK; A. LIESZ. *Inst. For Stroke and Dementia Res., Ludwig-maximilians-Universität München, Inst. for Stroke and Dementia Res., Univ. Med. Ctr. Munich.*

POSTER

391. Stroke II

Theme C – Neurodegenerative Disorders and Injury

Mon. 1:00 PM – *McCormick Place, Hall A*

1:00 J18 **391.01** Altered sensorimotor pathways post unilateral subcortical stroke. H. KARBASFOROUSHAN*; J. P. DEWALD. *Northwestern Univ.*

2:00 J19 **391.02** A pilot study to understand the differences in the cortical activation between healthy controls and individuals with brain injury. K. K. KARUNAKARAN*; N. EHRENBERG; K. J. NOLAN. *Kessler Fndn., New Jersey Inst. Of Technol., Children's Specialized Hosp.*

3:00 J20 **391.03** Biomechanical and electrophysiological assessment of the effect of botulinum neurotoxin injection in stroke survivors with spastic hypertonia. Y. CHEN; C. ZHANG; E. MAGAT; M. VERDUZCO-GUTIERREZ; G. E. FRANCISCO; P. ZHOU; Y. ZHANG; S. LI*. *UTHealth, Univ. of Houston, Univ. of Texas Hlth. Sci. Ctr. - Houston.*

4:00 J21 **391.04** Determine the usage of indirect motor pathways following a hemiparetic stroke: A pilot study. Y. YANG*; R. TIAN; M. CUMMINGS; C. H. E. Y. HOGENHUIS; J. DEOL; J. DROGOS; J. P. A. DEWALD. *Northwestern University, Feinberg Sch. of Med., Delft Univ.*

1:00 J22 **391.05** Are resting state EEG measures longitudinally associated with spontaneous neurological recovery early post-stroke? A prospective cohort study. M. SAES; S. B. ZANDVLIET; A. S. ANDRINGA; C. G. M. MESKERS*; A. DAFFERTSHOFER; F. C. T. VAN DER HELM; E. E. H. VAN WEGEN; G. KWAKKEL. *Amsterdam Univ. Med. Ctr., Feinberg Sch. of Medicine, Northwestern Univ., Vrije Univ. Amsterdam, Delft Univ. of Technol.*

2:00 J23 **391.06** Brain wide circuit dynamics of post-stroke recovery induced by optogenetic stimulation. S. VAHDAT*; A. V. PENDHARDAR; S. HARVEY; T. CHIANG; H. LEE; M. Y. CHENG; J. LEE; G. K. STEINBERG. *Stanford Univ., Stanford Univ., Stanford Univ., Stanford Univ.*

3:00 J24 **391.07** ▲ Effects of acetyl l-carnitine on the dendritic morphology of hippocampal pyramidal neurons of the CA1 and CA3 region of female pubic rats denervated sensorially at birth. E. D. CASTILLO LÓPEZ*; A. RODRÍGUEZ-RUBÍ; D. LÓPEZ-GUADALUPE; D. LÓPEZ-MORALES; R. A. VAZQUEZ-ROQUE, SR; G. FLORES; U. QUIRÓZ-LÓPEZ. *Facultad De Ciencias Biológicas BUAP, Benemérita Univ. Autónoma de Puebla, Facultad de Ciencias Biológicas, BUAP., Benemérita Univ. Autónoma De Puebla, Univ. Autonoma de Puebla / Inst. de Fisiologia.*

4:00 J25 **391.08** Persistent hydrocephalus and activated microglia drive the spatial memory decline after intraventricular hemorrhage in rodents. K. KAMAL*; T. BINYAMIN; J. '. KEITER; A. R. VERGARA; A. IZADI; K. ONDEK; R. F. BERMAN; F. R. SHARP; G. G. GURKOFF; B. WALDAU. *Univ. of California, Davis, Univ. of California, Davis.*

1:00 J26 **391.09** Stepwise regression modeling of impairments contributing to reaching function in chronic stroke. G. C. BELLINGER*; M. D. ELLIS. *Northwestern Univ., Northwestern Univ.*

2:00 J27 **391.10** Coordinated control of distal axon integrity and responses to axonal damage by a specific palmitoyl acyltransferase. J. NIU*; S. S. SANDERS; H. JEONG; Y. SUN; S. HOLLAND; A. KETSCHEK; H. HUANG; M. R. HAYDEN; Y. HU; G. M. SMITH; G. GALLO; Y. JIN; G. THOMAS. *Temple Univ. Sch. of Med., Temple Univ., Shriners Hosp. Pediatric Res. Ctr., UCSD, Stanford Univ. Sch. of Med., Univ. of Brithish Columbia, Temple Univ., Temple Sch. of Med., UCSD, Temple Univ. Sch. of Med.*

3:00 J28 **391.11** Genetic deletion of fractalkine receptor promotes hematoma resolution in the acute-phase of intracerebral hemorrhage via Nrf2/HO1 signaling pathway. X. LAN*; X. HAN; A. QIAN; J. WANG. *Johns Hopkins Med., Johns Hopkins Sch. of Med., Johns Hopkins Univ.*

4:00 J29 **391.12** Characterizing smoldering inflammation in progressive MS by a multimodal approach combining CSF proteomics and quantification of slowly expanding/evolving lesions. I. LEAF*; K. FERBER; D. P. BRADLEY; S. BELACHEW; E. CAHIR-MCFARLAND. *Biogen.*

1:00 J30 **391.13** Increased motoneuron excitability in a rabbit hypoxia ischemia model of cerebral palsy. P. STEELE; C. F. CAVARSAN; K. A. Q. QUINLAN*. *UNIVERSITY OF RHODE ISLAND, Univ. of Rhode Island.*

2:00 J31 **391.14** Longitudinal multimodal mapping of neural activity and blood flow reveals neurovascular dissociations in an awake mouse model of microinfarcts. F. HE*; C. SULLENDER; H. ZHU; T. A. JONES; C. XIE; A. DUNN; L. LUAN. *The Univ. of Texas at Austin, Univ. Texas Austin.*

• Indicated a real or perceived conflict of interest, see page 150 for details.
▲ Indicates a high school or undergraduate student presenter.
* Indicates abstract's submitting author

3:00 J32 **391.15** ▲ Hypothermic treatment for neonatal asphyxia in low-resource settings using phase changing material. H. T. T. TRAN; H. T. T. LE; H. T. P. TRAN; B. WINBLADH; L. HELLSTRÖM-WESTAS; D. M. TRAN; D. T. K. KHU; T. ALFVEN; L. OLSON*. *Karolinska Institutet, Vietnam Natl. Children's hospital, Karolinska Institutet, Uppsala Univ., Karolinska Institutet.*

4:00 J33 **391.16** Exploring the effects of oxygen-glucose deprivation in a 3D cortical microtissue model. R. M. MCLAUGHLIN*; J. SEVETSON; L. L. LIVI; D. HOFFMAN-KIM. *Brown Univ., Brown Univ., Brown Univ., Brown Univ., Brown Univ.*

POSTER

392. Blast Injury, Traumatic Brain Injury, Stress, and PTSD

Theme C – Neurodegenerative Disorders and Injury

Mon. 1:00 PM – *McCormick Place, Hall A*

1:00 J34 **392.01** Biological signature of an immunomodulatory probiotic intervention for veterans with mild TBI and PTSD. L. A. BRENNER*; K. A. STEARNS-YODER; A. J. HOISINGTON; T. T. POSTOLACHE; C. A. LOWRY. *VHA RMR Med. Ctr., Univ. of Colorado, Univ. of Colorado, Univ. of Colorado, Military and Veteran Microbiome Consortium for Res. and Educ., Eastern Colorado Hlth. Care Syst., Air Force Inst. of Technol., Univ. of Maryland Sch. of Med., Univ. of Colorado Boulder, Ctr. for Microbial Exploration.*

2:00 J35 **392.02** Persistent astroglial pathology in repetitive head impacts blast injury and CTE. B. R. HUBER*; K. BABCOCK; J. D. CHERRY; V. ALVAREZ; T. D. STEIN; A. C. MCKEE. *VA Boston Healthcare, Boston Univ., Boston VA Med. Ctr.*

3:00 J36 **392.03** Mechanisms of secondary injury and auditory deficits following mild blast induced trauma. J. FERNANDEZ*; E. HAN; E. L. BARTLETT; R. SHI. *Purdue Univ., Purdue Univ.*

4:00 J37 **392.04** Alterations in CNS 5-HT_{2A} signaling and the generation of aberrant social behavior following blast-induced traumatic brain injury. S. M. COLLINS*; E. L. REEDER; K. LUNGANI; A. HUSSAIN; C. J. O'CONNELL; G. A. GUDELSKY; M. J. ROBSON. *Univ. of Cincinnati, Univ. of Cincinnati.*

1:00 J38 **392.05** Blast waves delivered into the ear canal induced traumatic brain injury (TBI) in rats. Y. OU; Y. PANG; T. CHEN; J. HUANG; J. ALLISON; D. SANDLIN; F. FAN; R. ROMAN; W. ZHOU; H. ZHU*. *Univ. MS Med. Ctr., Univ. MS Med. Ctr., Univ. MS Med. Ctr., Univ. MS Med. Ctr.*

2:00 J39 **392.06** High-rate overpressure influences on pro-oxidative potential in primary astrocytes. F. GUILHAUME CORREA*; N. HLAVAC; P. J. VANDEVORD. *Virginia Tech., Virginia Tech., Salem Veterans Affairs Med. Ctr.*

3:00 J40 **392.07** Persistent neurobehavioral deficits and tauopathy in a co-morbid animal model of TBI and PTSD. A. FESHARAKI*; M. T. CHIASSEU; K. ST. LAURENT-ARRIOT; P. BERGOLD; S. M. STRITTMATTER. *Yale Sch. of Med., Yale Univ., SUNY Downstate Med. Ctr., Yale Univ.*

4:00 J41 **392.08** Structural network topology of military service members with PTSD, and PTSD-mTBI comorbidity. F. PROESSL*; S. D. FLANAGAN; A. J. STERCZALA; A. Z. BEETHE; C. DUNN-LEWIS; C. CONNABOY; B. C. NINDL; G. DESHPANDE; J. S. KATZ; T. S. DENNEY, Jr; M. N. DRETSCH. *Univ. of Pittsburgh, Auburn Univ., US Army Med. Res. Directorate-West, Walter Reed Army Inst. for Res., US Army Aeromedical Res. Lab.*

1:00 J42 **392.09** Neural correlates of severe cognitive impairment and posttraumatic stress disorder: Preliminary analysis of World Trade Center responders. E. RECHTMAN; E. DE WATER; D. B. HAZELTINE; L. ONYEBEKE; E. WONG; S. GANDY; M. SANO; S. CLOUSTON; E. BROMETT; J. NG; Y. DERI; C. TANG; R. LUCCHINI; B. J. LUFT; M. K. H. HORTON*. *Icahn Sch. of Med. At Mount Sinai, Icahn Sch. of Med. At Mount Sinai, Icahn Sch. of Med. At Mount Sinai, Stony Brook, Icahn Sch. of Med. At Mount Sinai.*

2:00 J43 **392.10** Primary low-intensity blast exposure: Energy parameters inducing ultrastructural abnormalities and synaptic alterations in mice. H. R. SIEDHOFF*; L. M. KONAN; H. SONG; J. CUI; C. E. JOHNSON; B. RUTTER; D. GRANT; T. WHITE; M. CHEN; W. XIA; I. CERNAK; R. G. DEPALMA; Z. GU. *Univ. of Missouri Columbia Sch. of Med., Truman VA Hosp. Res. Service, Missouri Univ. of Sci. and Technol., Univ. of Missouri Columbia, Bedford VA Hospital, Boston Univ., STARR-C LLC, DVA.*

3:00 J44 **392.11** Impact of mild traumatic brain injury and fear conditioning on dendritic plasticity in the basolateral amygdala and prefrontal cortex of mice. L. K. ALFILER; J. K. BABB; K. A. LEITE-MORRIS; S. C. HEINRICHS; G. B. KAPLAN*. *VA Boston Healthcare Syst., VA Boston Healthcare System/Harvard Med. Sch., VA Boston Healthcare System/Boston Univ. Sch. Med.*

4:00 J45 **392.12** Early life stress alters the threshold for cognitive impairments in mild traumatic brain injury. C. M. ATKINS*; F. PLACERES-URAY; N. M. WILSON; J. E. FREUND; D. J. TITUS. *Univ. of Miami Miller Sch. of Med.*

1:00 J46 **392.13** Detrimental effects of mild blast traumatic brain injury are augmented by chronic stress. M. G. OYOLA*; A. L. RUSSELL; S. E. SAPERSTEIN; T. J. WU. *Uniformed Services Univ., Uniformed Services Univ.*

2:00 K1 **392.14** Social stress potentiates negative outcomes for male prairie voles (Microtus ochrogaster) in polytraumatic injury. G. A. PRATT, III; V. D. CHAPLIN; M. C. NORMANN; M. MCWATERS; O. I. AKINBO; W. WATANASRIYAKUL; A. J. GRIPPO; N. MCNEAL*. *Naval Med. Res. Unit - San Antonio, Northern Illinois Univ.*

3:00 K2 **392.15** Diet factors and psychological insults (TBI vs. psychological stress) co-perturb gut-brain axis. N. CHAKRABORTY; J. C. DEMAR, JR; A. GAUTAM; J. L. MEYERHOFF*; R. HAMMAMIEH; M. JETT; J. LONG. *USACEHR, Walter Reed Army Inst. of Res., USACEHR, WRAIR.*

4:00 K3 **392.16** Traumatic brain injury in the neonate rat impairs adaptation to stress in adolescence: Role of hippocampal glucocorticoid receptors. D. LENGEL*; J. W. HUH; R. RAGHUPATHI. *Drexel Univ., Children's Hosp. of Philadelphia, Drexel Univ. Col. of Med.*

• Indicated a real or perceived conflict of interest, see page 150 for details.
▲ Indicates a high school or undergraduate student presenter.
* Indicates abstract's submitting author

1:00 K4 **392.17** Early life stress moderates the effects of traumatic brain injury on hippocampal neurogenesis and increases neuroinflammation. A. DÍAZ*; M. A. ROQUE; C. O. BONDI; A. E. KLINE; N. LAJUD. *Inst. Mexicano Del Seguro Social, Univ. Nacional Autonoma De Mexico, Univ. of Pittsburgh, Univ. of Pittsburgh, Inst. Mexicano del Seguro Social.*

2:00 K5 **392.18** Early life stress increases cytokine expression in the hippocampus after TBI in juvenile rats. M. A. ROQUE*; L. KUTASH; A. IOUCHMANOV; I. H. BLEIMEISTER; J. CHENG; C. O. BONDI; N. LAJUD; A. E. KLINE. *Ctr. de Investigacion Biomedica de Michoacan, Univ. of Pittsburgh, Univ. of Pittsburgh, Univ. of Pittsburgh, Inst. Mexicano del Seguro Social, Ctr. de investigacion Biomedica de Michoacan, Univ. of Pittsburgh.*

3:00 K6 **392.19** Effects of concussive-like head injury on fear-related behaviors in rats. M. RIVERA LOPEZ*; M. CÁCERES-CHACÓN; O. MARTÍNEZ-GUZMÁN; R. Y. RAMOS-SÁNCHEZ; D. M. OJEDA-MARTÍNEZ; P. ALVELO-FERNÁNDEZ; C. J. REYES-SEPÚLVEDA; D. SIERRA-MERCADO. *Univ. Puerto Rico Sch. of Med., Univ. of Puerto Rico Rio Piedras, Univ. of Puerto Rico Bayamón.*

4:00 K7 **392.20** ▲ Methylphenidate differentially alters risk-based decision-making in rats after TBI. T. K. SHAVER*; C. T. LAFFERTY; M. A. FRANKOT; J. E. OZGA-HESS; K. M. MARTENS; C. VONDER HAAR. *West Virginia Univ.*

1:00 K8 **392.21** ▲ Repeat closed-head injury selectively impairs attention in rats. V. J. MILLESON*; J. S. ADKINS; K. M. MARTENS; C. VONDER HAAR. *West Virginia Univ., West Virginia Univ.*

2:00 K9 **392.22** ▲ The effect of experimental brain trauma on sustained and flexible attention in female rats. A. IOUCHMANOV*; L. KUTASH; T. CRAINE; C. SUNLEAF; J. CHENG; A. KLINE; C. BONDI. *Univ. of Pittsburgh.*

3:00 K10 **392.23** Environmental enrichment enhances spatial learning in a pediatric model of asphyxial cardiac arrest. M. NICHOLAS*; C. O. BONDI; S. SEPPI; M. HOOK; A. E. KLINE; A. ROWLEY; H. ALEXANDER; J. CHENG; M. MANOLE. *Univ. of Pittsburgh, Univ. of Pittsburgh, Univ. of Bath, Univ. of Pittsburgh, Univ. of Pittsburgh, Univ. of Pittsburgh.*

4:00 K11 **392.24** ▲ Instrumental learning and behavioral flexibility in adolescent rats following pediatric brain trauma. C. SUNLEAF*; K. GROBENGIESER; A. TUROCY; A. PATEL; S. SHA; L. KUTASH; J. CHENG; A. KLINE; C. BONDI. *Univ. of Pittsburgh.*

1:00 K12 **392.25** ▲ Amantadine as a bridge-therapy prior to neurorehabilitation after experimental traumatic brain injury. K. GRIMM*; C. LOMAHAN; D. BROOKS; I. BLEIMEISTER; M. HELKOWSKI; C. O. BONDI; A. E. KLINE. *Univ. of Pittsburgh.*

2:00 K13 **392.26** Intranasal zinc remediates behavioral deficits following stress and traumatic brain injury. E. N. DOHERTY*; W. R. KOCHEN; T. T. DIMOPOULOS; D. D. CERRI; J. M. FLINN. *George Mason Univ., George Mason Univ.*

3:00 K14 **392.27** Omega-3 fatty acid deficiency increases neurological impairments in a rat model of combined blast-traumatic brain injury and traumatic stress. J. C. DEMAR*; J. G. ROSENBERGER; A. B. BATUURE; R. T. URIOSTE; O. D. EKEN; L. ZHILIN; D. M. WILDER; J. B. LONG. *Walter Reed Army Inst. of Res.*

4:00 K15 **392.28** ▲ Long-term cognitive benefits from abbreviated environmental enrichment after cortical impact injury. C. LOMAHAN*; K. GRIMM; M. ALVAREZ; M. WOLFF; H. RADABAUGH; C. O. BONDI; A. E. KLINE. *Univ. of Pittsburgh, Univ. of Pittsburgh.*

1:00 K16 **392.29** Inhibition of microglia using chemogenetics reduced proinflammatory cytokine levels after traumatic brain injury. K. M. PECHACEK*; K. M. MARTENS; B. ZHU; C. VONDER HAAR. *West Virginia Univ.*

POSTER

393. Treatment and Therapeutic Interventions for Spinal Cord Injury

Theme C – Neurodegenerative Disorders and Injury

Mon. 1:00 PM – *McCormick Place, Hall A*

1:00 K17 **393.01** ● Bioactive scaffolds of mobile molecules to repair the injured spinal cord. Z. ALVAREZ PINTO*; A. N. EDELBROCK; J. ORTEGA; I. R. SASSELLI; E. KISKINIS; S. I. STUPP. *Northwestern Univ.*

2:00 K18 **393.02** Enhancing endogenous reprogramming for neurogenesis after spinal cord injury. W. TAI*; L. WANG; H. NI; C. ZHANG. *UT Southwestern Med. Ctr.*

3:00 K19 **393.03** Sensorimotor improvement following dorsal root repair with PRP and human embryonic stem cells. M. V. DE CASTRO*; M. SILVA; G. CHIAROTTO; S. KYRYLENKO; M. H. SANTANA; A. LUZO; A. L. OLIVEIRA. *Univ. of Campinas (UNICAMP), Med. Inst. - Sumy State Univ.*

4:00 K20 **393.04** Modulation of microenvironment by iron oxide nanoparticles embedded in gelatin-genipin hydrogel along with magnetic field stimulation in contused spinal cord injury rats. S. B. BHATTACHARYYA*; S. JAIN; A. K. DINDA. *AIIMS, New Delhi, AIIMS, New Delhi, AIIMS, New Delhi.*

1:00 K21 **393.05** A comparative study of human-derived UCMSC, ADMSC and iPSC-induced progenitor transplants in the treatment of spinal cord injury. A. LIU*; P. YU; L. SHI; K. SO; L. ZHOU. *Jinan Univ.*

2:00 K22 **393.06** Efficacy of feeder-free hiPSC-OPC-enriched NS/PCS for transplantation in the subacute phase of spinal cord injury. Y. KAMATA*; M. ISODA; N. NAGOSHI; S. ITO; M. SHINOZAKI; O. TSUJI; M. MATSUMOTO; H. OKANO; J. KOHYAMA; M. NAKAMURA. *Dept. of Orthopaedic Surgery, Keio Univ. Sch. of Med., Dept. of Physiology, Keio Univ. Sch. of Med., Regenerative &Cellular Med. Office, Sumitomo Dainippon Pharma Co., Ltd.*

3:00 K23 **393.07** A fully implantable, wireless neuroprosthetic device for delivery of stable and robust EMG-triggered spinal stimulation in rodents. S. LEE*; W. YOUM; K. MOON; R. L. MURPHY; R. ROBINSON; E. E. FETZ; S. I. PERLMUTTER. *Univ. of Washington, Electronics and Telecommunication Res. Inst., San Diego State Univ.*

4:00 K24 **393.08** Significant heterogeneity in neural stem cell populations for transplantation. T. N. G. ADAMS; S. TIWARI; C. RO; H. X. NGUYEN; R. NISHI; D. L. HAUS; B. J. CUMMINGS; A. J. ANDERSON; L. A. FLANAGAN*. *Univ. of California, Irvine.*

● Indicated a real or perceived conflict of interest, see page 150 for details.
▲ Indicates a high school or undergraduate student presenter.
* Indicates abstract's submitting author

1:00 K25 **393.09** The relationship between frequency of acute intermittent hypoxia treatment, spinal plasticity, and functional improvements in chronic cervical spinal cord injury. A. E. HAGGERTY*; N. DE LA OLIVA; M. OUDEGA. *Univ. of Miami, Miami Project To Cure Paralysis, Univ. of Mia, Univ. of Miami Dept. of Neurolog. Surgery.*

2:00 K26 **393.10** Assessing the effects of KCC2 and CLP290 in a mouse contusion model. M. HE*; B. CHEN; J. TANG; B. BROMMER; J. ZHU; Z. HE. *Children's Hosp Boston.*

3:00 K27 **393.11** Adult human multipotent neural cells exerts neuroprotective paracrine effects against oxidative stress-induced apoptosis of spinal cord neurons. C. KIM*; A. NAM; Y. PARK; K. JOO; S. LEE; K. LEE. *Sungkyunkwan Univ. Sch. of Med., Samsung Changwon Hospital, Sungkyunkwan Univ. Sch. of Med., Samsung Med. Center, Sungkyunkwan Univ. Sch. of Med.*

4:00 K28 **393.12** GDF10 promotes axonal regeneration and functional recovery: A novel gene therapy strategy for spinal cord injury. P. M. ABDUL-MUNEER*; S. BHOWMICK; V. D'MELLO. *Hackensack Meridian Hlth. JFK Med. Ctr.*

1:00 K29 **393.13** The effects of 6-aminonicotinamide (6-AN) treatment on migration of Schwann cells transplanted in the contused spinal cord in adult rats. T. MIHARA*; A. HAGGERTY; K. YAMANE; Y. PRESSMAN; S. CERQUEIRA; M. B. BUNGE; M. OUDEGA. *The Miami Project To Cure Paralysis, Univ. of Miami Miller Sch. of Med., Guangzhou Med. Univ., Bruce W. Carter Dept. of Veterans Affairs Med. Ctr.*

2:00 K30 **393.14** Preliminary results from CELLTOP trial: A phase I/II clinical trial of autologous adipose derived mesenchymal stem cells (AD-MSCs) for the treatment of paralysis due to traumatic SCI. M. BYDON; A. B. DIETZ; S. GONCALVES*; F. MOINUDDIN; M. A. ALVI; A. GOYAL; A. TERZIC; A. J. WINDEBANK; W. QU. *Mayo Clin., Mayo Clin., Mayo Clin., Mayo Clin., Mayo Clin.*

3:00 K31 **393.15** Allogeneic umbilical cord derived mesenchymal stem cells transplantation improves motor function in spinal cord injured rats. F. MOINUDDIN*; K. PETRUCCI; G. YEH; A. SIDDIQUI; Y. YOLCU; W. WAHOOD; A. GOYAL; M. ALI ALVI; S. GONCALVES; N. MADIGAN; A. WINDEBANK; B. MOHAMAD. *Mayo Clin., Animal Cell Therapies, Inc.*

4:00 K32 **393.16** Tacc3 is a therapeutic target for axon regeneration in adult CNS. S. WANG*; X. JIANG; Y. OHTAKE; S. LI. *Temple Univ.*

1:00 K33 **393.17** The effect of a glycosaminoglycan mimetic on Schwann cell-mediated repair of a severely injured spinal cord in adult rats. A. OKUDA*; T. MIHARA; S. HASHEMI; T. L. ARINZEH; M. OUDEGA. *The Miami Project To Cure Paralysis, New Jersey Inst. of Technol., Univ. of Miami Miller Sch. of Med., Guangzhou Med. Univ., Bruce W. Carter Dept. of Veterans Affairs Med. Ctr.*

2:00 K34 **393.18** A nanofiber hydrogel composite for mesenchymal stem cell transplantation improves immunomodulatory actions and induces robust axon regeneration in subacute spinal cord injury. A. E. HAGGERTY*; Y. NITOBE; I. MALDONADO-LASUNCION; K. YAMANE; M. M. MARLOW; X. LI; B. CHO; M. SEU; H. MAO; M. OUDEGA*. *Univ. of Miami Miller Sch. of Med., Royal Netherlands Acad. of Arts and Sci. (KNAW) and VU Univ. of Amsterdam, Johns Hopkins Univ., Johns Hopkins Univ., Johns Hopkins Univ., Johns Hopkins Sch. of Med., Johns Hopkins Univ., Univ. of Miami Miller Sch. of Med., Guangzhou Med. Univ., Bruce W. Carter Dept. of Veterans Affairs Med. Ctr.*

3:00 K35 **393.19** Retrograde AAV transduction and 3D microscopy enable rapid assessment of axon sparing and regeneration after spinal injury. Z. WANG*; P. TSOULFAS; M. G. BLACKMORE. *Marquette Univ., Univ. of Miami Sch. of Med., Marquette Univ.*

4:00 K36 **393.20** Augmenting corticospinal system output in a pre-clinical large animal model of cervical contusion injury with combined brain and spinal cord stimulation. P. T. WILLIAMS*; D. Q. TRUONG; A. DE PAOLIS; D. F. RYAN; H. ALEXANDER; M. D. SMITH; J. WONG; S. AMBIA; L. CARDOSO; M. BIKSON; J. H. MARTIN. *CUNY Sch. of Med., City Col. of New York, CUNY, City Col. of New York, CUNY Sch. of Med., CUNY Sch. of Med.*

1:00 K37 **393.21** Effects of different single-bout AIH protocols on LUT function in adult naïve and SCI rats. W. F. COLLINS*, III; I. C. SOLOMON. *Stony Brook Univ., Stony Brook Univ.*

2:00 K38 **393.22** ● Effect of oral ketone esters use on motor function recovery alter cervical hemicontusion in rats. O. SEIRA*; K. KOLEHMAINEN; J. LIU; W. PLUNET; J. NICOLE; S. KAMAKARI; L. RAFFAELE; K. CLARKE; W. TETZLAFF. *ICORD/UBC, Univ. of Oxford.*

3:00 K39 **393.23** Impact of severity and duration of acute hypoxic exposure on lower urinary tract (LUT) function in urethane-anesthetized adult female rats. I. C. SOLOMON*; W. F. COLLINS, III. *Stony Brook Univ., Stony Brook Univ.*

4:00 K40 **393.24** ● Oral ketone esters induce widespread proteome changes after spinal cord injury. K. L. KOLEHMAINEN*; O. SEIRA; W. T. PLUNET; J. LIU; G. STACEY; L. FOSTER; K. CLARKE; W. TETZLAFF. *Univ. of British Columbia, ICORD, ICORD, Univ. of British Columbia, Univ. of Oxford.*

1:00 L1 **393.25** Non invasive optogenetic stimulation in a rat model of spinal cord injury. G. KENDZIORSKI*; E. D. PETERSEN; L. SHAFAU; M. PRAKASH; U. HOCHGESCHWENDER. *Central Michigan Univ., Central Michigan Univ., Central Michigan Univ.*

2:00 L2 **393.26** Repeated transspinal stimulation reorganizes neural circuitries in spinal cord injured rat. D. C. MALLOY*; M. CÔTÉ. *Drexel Univ. Col. of Med.*

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▲ Indicates a high school or undergraduate student presenter.
* Indicates abstract's submitting author

POSTER

394. Discovery and Treatment Studies in Auditory and Visual Preclinical Neuroscience

Theme D – Sensory Systems

Mon. 1:00 PM – *McCormick Place, Hall A*

1:00 L3 **394.01** The co-occurrence of Alice in Wonderland syndrome and autonomous sensory meridian response. S. BEDWELL*; I. BUTCHER. *Birmingham City Univ., Univ. of Manchester.*

2:00 L4 **394.02** Components of the cochlear mechanoelectrical transduction machinery involved in auditory cortex development. M. D. MORAIS; M. GAGLIARDINI; O. POSTAL; P. JEAN; T. DUPONT; B. GOURÉVITCH; C. PETIT; N. MICHALSKI*. *Unite Genetique & Physiologie Audition.*

3:00 L5 **394.03** ● Long-term NAD^+ supplementation rescues high-frequency age-related hearing loss in mice. R. KIMURA*; M. N. OKUR; D. L. CROTEAU; V. A. BOHR. *NIH.*

4:00 L6 **394.04** Behavioral phenotyping of a novel Wolfram syndrome zebrafish model. B. DELPRAT*; L. CROUZIER; C. DELETTRE; T. MAURICE. *MMDN, Univ. Montpellier, EPHE, INSERM, U1198, Inserm U1051.*

1:00 L7 **394.05** Drug screening utilizing the visual behavior of a night blindness zebrafish model. L. GANZEN*; Y. LEUNG. *Purdue Univ.*

2:00 L8 **394.06** The role of GDF6A in the early development of hearing in zebrafish. M. RICHMOND; M. TEKIN; Z. LU*. *Univ. Miami, Univ. of Miami Miller Sch. of Med.*

3:00 L9 **394.07** What white matter plasticity can tell us about the associations between hearing loss and tinnitus. R. A. KHAN*; S. SCHMIDT; Y. TAI; S. SHAHSAVARANI; F. HUSAIN. *Univ. of Illinois At Urbana-Champaign.*

4:00 L10 **394.08** ● An allele independent gene therapy strategy induces rod function in a transgenic swine model of autosomal dominant retinitis pigmentosa. A. JALLIGAMPALA; G. PANGENI; M. H. JABBAR; W. WANG; F. EFRAT; A. RISING; W. HAUSWIRTH; A. LEWIN; M. A. MCCALL. *Univ. of Louisville, Natl. Inst. of Hlth., Univ. of Florida, Univ. of Florida, Univ. of Louisville.*

1:00 L11 **394.09** Behavioral and mechanistic study of tinnitus induced by sustained optogenetic activation of inhibitory neurons in the mouse inferior colliculus. X. LIU; F. LI*; H. TANG; X. LIANG; G. BI; P. LAU; L. CHEN. *Univ. of Sci. and Technol. of China.*

2:00 L12 **394.10** Voxel-based morphometry in age-associated hearing loss: A preliminary study. S. SHENDE*; S. SHAHSAVARANI; Y. TAI; R. MUDAR; F. HUSAIN. *Univ. of Illinois at Urbana-Champaign.*

3:00 L13 **394.11** Synaptic zinc regulates cochlear resilience to noise-induced hearing loss. B. B. BIZUP*; A. THATHIAH; T. TZOUNOPOULOS. *Univ. of Pittsburgh, Univ. of Pittsburgh.*

4:00 L14 **394.12** ● Inner ear exposure of SENS-401 is not altered by severe acoustic trauma in a rat model. C. ROMANET; C. TRAN VAN BA; P. LIAUDET; M. PETREMANN; J. DYHRFJELD-JOHNSEN*. *Sensorion SA.*

1:00 L15 **394.13** Neurosensory changes following low-level repeated blast exposure. S. SAJJA*; J. C. DEMAR, JR; L. HEYBURN; R. URIOSTE; A. BATUURE; D. WILDER; Y. WANG; A. PEETHAMBARAM; J. LONG. *Walter Reed Army Insitute of Res., Walter Reed Army Inst. of Res., Walter Reed Army Inst. of Res., Walter Reed Army Inst. of Res.*

2:00 L16 **394.14** ● Single-cell RNA-Seq development of AAV vectors. B. E. OZTURK; M. KLEYMAN; J. HE; S. TURUNC; A. PFENNING; W. R. STAUFFER; L. C. BYRNE*. *Univ. of Pittsburgh, Carnegie Mellon Univ.*

3:00 L17 **394.15** Analysis of viral vector targeting in cochleae after noise induced damage. M. C. BAIRD*; K. BEY; R. J. PINEDA; S. LIKHITE; R. LINDSAY; J. XIE; P. DISTEFANO; M. COLLE; E. BIELEFELD; L. BIANCHI; K. MEYER. *The Ohio State Univ., The Res. Inst. at Nationwide Children's Hosp., ONIRIS/INRA, Zebra Biologics, The Scripps Res. Inst., Oberlin Col.*

4:00 L18 **394.16** Assessing the integrity of eye-brain communication in a mouse model of pediatric glaucoma. N. AMIRMOKHTARI; R. A. BOUHENNI; M. A. SMITH*. *Northeast Ohio Med. Univ., Akron Children's Hosp.*

1:00 L19 **394.17** Ocular amyloid triggers signaling dysfunction in retinal ganglion cells. E. S. PLYLER*; M. A. SMITH; C. M. DENGLER-CRISH; S. D. CRISH. *Northeast Ohio Med. Univ.*

POSTER

395. Somatosensation: Spinal Circuits

Theme D – Sensory Systems

Mon. 1:00 PM – *McCormick Place, Hall A*

1:00 L20 **395.01** Primary-afferent-driven presynaptic inhibition of the C-fiber inputs to spinal lamina I projection and local-circuit neurons. E. FERNANDES; C. PECHINCHA; B. V. SAFRONOV*. *IBMC, IBMC 503828360.*

2:00 L21 **395.02** Gucy2d is a novel and selective marker of a subset of dynorphin-expressing neurons in the spinal dorsal horn. E. K. SERAFIN*; J. LI; M. L. BACCEI. *Univ. of Cincinnati Dept. of Anesthesiol.*

3:00 L22 **395.03** Movement gating of cutaneous signals in the cuneate nucleus. Q. HE*; A. K. SURESH; C. VERSTEEG; J. M. ROSENOW; L. E. MILLER; S. J. BENSMAIA. *Univ. of Chicago, Northwestern Univ., Northwestern Univ., Northwestern Univ.*

4:00 L23 **395.04** Comparison of dorsal and ventral sensory afferent involvement in crossed reflex. O. D. LAFLAMME*; M. IBRAHIM; T. AKAY. *Dalhousie Univ.*

1:00 L24 **395.05** Supraspinal and segmental contribution to the effects of systemic and local injections of picrotoxin on the patterns of functional connectivity between dorsal horn neurons. L. MORENO*; N. PLAMENOV DONCHEV; D. CHÁVEZ; E. HERNÁNDEZ; S. GLUSMAN; P. RUDOMIN. *CINVESTAV, Stroger Cook County Hosp., El Colegio Nacional.*

2:00 L25 **395.06** Phox2a defines a developmental origin of the anterolateral system and is required for supraspinal nociception. R. B. ROOME*; S. RASTEGAR-POUYANI; C. SALESSE; B. MONA; K. LISTER; S. FERLAND; W. S. THOMPSON; S. SOTOCINAL; A. DUMOUCHEL; J. E. JOHNSON; M. KMITA; J. S. MOGIL; Y. DE KONINCK; A. KANIA. *Inst. De Recherches Cliniques De Montréal, Univ. of Texas Southwestern, McGill Univ., Laval Univ.*

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▲ Indicates a high school or undergraduate student presenter.
* Indicates abstract's submitting author

3:00 L26 **395.07** Feature extraction by muscle proprioceptors using machine learning. S. N. HOUSLEY*; T. C. COPE. *Georgia Inst. of Technol., Georgia Inst. of Technol.*

4:00 L27 **395.08** Reward and force modulation of neurons in the primate primary somatosensory cortex (S1). M. U. ATIQUE*; J. T. FRANCIS. *Univ. of Houston, Univ. of Houston.*

1:00 L28 **395.09** ● Is this a vibration evoked potential? Preliminary study in healthy subjects. F. OVAK BITTAR; M. M. SABBAHI*. *Texas Physical Therapy and Electrophysiology Services, Texas Electrophysiology and Physical Therapy.*

2:00 L29 **395.10** Electrophysiological and morphological characterisation of excitatory interneurons in the dorsal horn of the spinal cord. A. C. DICKIE*; A. M. BELL; N. IWAGAKI; E. POLGÁR; M. GUTIÉRREZ MECINAS; R. KELLY; H. LYON; K. TURNBULL; S. J. WEST; A. ETLIN; J. M. BRAZ; M. WATANABE; D. L. H. BENNETT; A. I. BASBAUM; J. S. RIDDELL; A. J. TODD. *Univ. of Glasgow, Univ. of Oxford, Univ. of California San Francisco, Hokkaido Univ. Sch. of Med.*

3:00 L30 **395.11** Connectivity and molecular identity of neurons expressing gastrin-releasing peptide in the superficial dorsal horn in a GRPeGFP transgenic mouse line. A. BELL*; M. GUTIERREZ-MECINAS; E. POLGAR; A. DICKIE; A. TODD. *Univ. of Glasgow.*

4:00 L31 **395.12** Role of RorB-expressing lamina ii interneurons in gating nociceptive C-fibre input. O. DAVIS*; A. C. DICKIE; K. A. BOYLE; M. MUSTAPA; A. BELL; K. M. SMITH; B. A. GRAHAM; A. J. TODD; D. I. HUGHES. *Univ. of Glasgow, Univ. of Newcastle.*

1:00 L32 **395.13** Characterisation of gastrin-releasing peptide receptor-expressing neurons in the mouse spinal dorsal horn. E. POLGAR*; M. GUTIERREZ-MECINAS; A. BELL; A. C. DICKIE; R. CLARK; E. AB RASHID; A. J. TODD. *Univ. of Glasgow.*

2:00 L33 **395.14** Neuropeptide y-expressing dorsal horn inhibitory interneurons in spinal pain and itch circuits. K. A. BOYLE*; M. GUTIERREZ-MECINAS; A. C. DICKIE; E. POLGAR; A. M. BELL; D. I. HUGHES; A. J. TODD. *Univ. of Glasgow.*

3:00 L34 **395.15** Relationship of severity of sensory impairments and balance strategies in individuals with lower-limb amputation. B. A. PETERSEN*; P. J. SPARTO; L. E. FISHER. *Univ. of Pittsburgh, Univ. of Pittsburgh, Univ. of Pittsburgh.*

4:00 L35 **395.16** Non-uniform recruitment of lower limb muscles by epidural stimulation of lumbosacral spinal cord in trans-tibial amputees. D. SARMA*; A. C. NANIVADEKAR; B. A. PETERSEN; M. LIU; E. R. HELM; M. L. BONINGER; L. E. FISHER; D. J. WEBER. *Univ. of Pittsburgh, Univ. of Pittsburgh.*

1:00 L36 **395.17** Effect of stimulus parameters on perceived sensation and phantom limb pain during stimulation of lumbosacral spinal cord in lower-limb amputees. A. C. NANIVADEKAR*; E. OKOROKOVA; B. PETERSEN; D. SARMA; S. J. BENSMAIA; E. HELM; M. BONINGER; D. J. WEBER; L. E. FISHER. *Univ. of Pittsburgh, Univ. of Chicago, Univ. of Chicago, Univ. of Pittsburgh, Univ. of Pittsburgh.*

2:00 L37 **395.18** *In vivo* imaging: Dendritic spine dynamics on dorsal horn sensory neurons. C. BENSON*; K. K. FENRICH; M. HILL; K. OLSON; S. PATWA; S. G. WAXMAN; A. M. TAN. *Yale Univ., Ctr. for Neurosci. and Regeneration Research, VA CT Healthcare Syst., Univ. of Alberta, Yale Univ.*

3:00 L38 **395.19** Prefrontal circuit dysfunction in a mouse model of neuropathic pain. M. LI*; S. TENG; G. YANG. *Columbia Univ. Irving Med. Ctr., Columbia Univ. Irving Med. Ctr.*

4:00 L39 **395.20** Organization of perineal muscle afferents on lumbosacral spinal cord in female rabbit. C. ACOSTA ORTEGA*; Z. FLORES-LOZADA; C. HERNÁNDEZ-BONILLA; I. JIMÉNEZ-ESTRADA; M. MARTÍNEZ-GÓMEZ; R. ZEMPOALTECA; D. L. CORONA-QUINTANILLA. *Univ. Autónoma De Tlaxcala, Univ. Autónoma de Tlaxcala, Univ. Autónoma de Tlaxcala, Ctr. de Investigación y de Estudios Avanzados del Inst. Politécnico Nacional, Univ. Nacional Autónoma de México, Univ. Autónoma de Tlaxcala, Univ. Autónoma de Tlaxcala.*

POSTER

396. Somatosensation: Itch Mechanisms

Theme D – Sensory Systems

Mon. 1:00 PM – *McCormick Place, Hall A*

1:00 L40 **396.01** Tac1-expressing neurons in the periaqueductal gray facilitate the itch-scratching cycle via descending regulation. W. CHEN*; Z. GAO; M. LIU; X. CHEN; X. ZHANG; L. YUAN; Y. SUN. *Inst. of Neurosci.*

2:00 L41 **396.02** The direct and indirect activation of primary afferents by alpha melanocyte stimulating hormone involves in the induction of spontaneous itching in mice with atopy-like dermatitis. T. ANDOH*; C. AKASAKA; K. SHIMIZU; J. LEE; Y. YOSHIHISA; T. SHIMIZU. *Univ. Toyama, Univ. Toyama, Univ. Toyama.*

3:00 L42 **396.03** Multimodal representation of itch, thermal, and mechanical sensation by the same S1 neuronal population. Y. SUN*; X. CHEN; Y. LIU; J. DENG; N. XU. *Inst. of Neuroscience, CAS, Inst. of Neuroscience, Chinese Acad. of Scie, Inst. of Neurosci., Inst. of Neurosci., Inst. of Neuroscience, SIBS, CAS.*

4:00 L43 **396.04** ● Effect of perampanel on acute itch behavior induced by chloroquine, serotonin or histamine in mice. A. HARUTA-TSUKAMOTO; Y. MIYAHARA; H. FUNAHASHI; K. EBIHARA; T. NISHIMORI; Y. ISHIDA*. *Dep Psychiatry, Fac of Med, Univ. Miyazaki.*

1:00 L44 **396.05** ● Role of keratinocyte STAT3 in itch. T. HASHIMOTO; K. SAKAI; G. YOSIPOVITCH; T. A. AKIYAMA*. *Univ. of Miami.*

2:00 L45 **396.06** Effects of rostral ventromedial medullary tachykinin 1 receptor (NK-1R) expressing neurons on the descending modulation of itch. T. FOLLANSBEE*; D. T. DOMOCOS; K. TAKANAMI; M. CARSTENS; E. E. CARSTENS. *Univ. of California, Davis, Fac. of Biology, Univ. of Bucharest, Natl. Inst. of Genet.*

3:00 L46 **396.07** High-resolution analysis of the tickle response and of self-tickle suppression in humans. S. PROELSS*; S. ISHIYAMA; E. MAIER; M. BRECHT. *Humboldt Univ. of Berlin.*

- ● Indicated a real or perceived conflict of interest, see page 150 for details.
- ▲ Indicates a high school or undergraduate student presenter.
- * Indicates abstract's submitting author

4:00 M1 **396.08** Determining the function of TRPC3 in allergic contact dermatitis induced itch. K. BEATTIE*; H. JIANG; Q. LIU; W. LUO. *Univ. of Pennsylvania Sch. of Med., Washington Univ. at St. Louis Sch. of Med.*

1:00 M2 **396.09** Skin microbiome induced release of an itch-inducing cytokine. S. PITAKE*; L. FLOWERS; E. GRICE; I. ABDUS-SABOOR. *Univ. of Pennsylvania, Univ. of Pennsylvania, Univ. of Pennsylvania.*

2:00 M3 **396.10** Modulation of touch and itch by neuropeptide Y signaling within the dorsal spinal cord. D. ACTON*; X. REN; S. DI COSTANZO; A. DALET; S. BOURANE; M. GOULDING. *Salk Inst.*

3:00 M4 **396.11** MRGPRX4 is a novel bile acid receptor in cholestatic itch. H. YU; T. ZHAO*; S. LIU; Q. WU; O. JOHNSON; Z. WU; Z. ZHUANG; Y. SHI; R. HE; Y. YANG; J. SUN; X. WANG; H. XU; Z. ZENG; X. LEI; W. LUO; Y. LI. *State Key Lab. of Membrane Biology, Peking Univ. Sch. of Life Sci., PKU-IDG/McGovern Inst. for Brain Res., Peking-Tsinghua Ctr. for Life Sciences, Acad. for Advanced Interdisciplinary Studies, Dept. of Neuroscience, Perelman Sch. of Medicine, Univ. of Pennsylvania, Dept. of Chem. Biology, Col. of Chem. and Mol. Engin., Dept. of Dermatology, Peking Univ. First Hospital, Beijing Key Lab. of Mol. Diagnosis on Dermatoses, Dept. of Neurosurgery, Peking Univ. Third Hosp., State Key Lab. of Brain and Cognitive Science, CAS Ctr. for Excellence in Brain Sci. and Intelligence Technol. (Shanghai), Inst. of Biophysics, Chinese Acad. of Sci., Dept. of Liver Surgery, Peking Union Med. Col. Hospital, Chinese Acad. of Med. Sci. and Peking Union Med. Col., Dept. of Infectious Diseases, Peking Univ. First Hosp., Chinese Inst. for Brain Res.*

4:00 M5 **396.12** Molecular pathway linked with chronic itch but no pain. S. K. M. MISHRA*; R. JI; J. WHEELER; S. PITAKE; M. KO; W. BAEUMER; T. OLIVRY. *Col. Vet. Medicine, NC State Univ., Duke Univ. Med. Ctr., North Carolina State Univ., Wake Forest Univ. Sch. of Med.*

1:00 M6 **396.13** A meta-analysis of sex and animal models used in pre-clinical itch research. J. J. WHEELER*; K. N. ALLEN-MOYER; S. K. MISHRA. *North Carolina State Univ., North Carolina State Univ.*

2:00 M7 **396.14** ▲ Cinnamaldehyde-evoked scratching in mice involves activation of TRPV4- and TRPV1- but not TRPA1-expressing sensory neurons. A. NGUYEN; T. FOLLANSBEE; D. T. DOMOCOS; M. IODI CARSTENS; E. CARSTENS*. *Univ. of California, Davis, Univ. of California, Davis, Fac. of Biology, Univ. of Bucharest, U C Davis, Univ. of California Davis.*

3:00 M8 **396.15** Characterization of responses to pain and itch stimuli in adult rats with neonatal dopamine depletion. M. OGATA*; D. UTA; H. AKITA; H. ISHIBASHI. *Dept. of Physiology, Sch. of Allied Hlth. Sciences, Kitasato Univ., Univ. Toyama.*

4:00 M9 **396.16** Quantitative assessment of peptides level changes related to murine atopic dermatitis and dry skin models in mice. K. D. ANAPINDI*; E. TILLMAAND; E. DELATOBA; J. GOU; A. A. PRADHAN; Q. LIU; J. V. SWEEDLER. *Univ. of Illinois at Urbana Champaign, Univ. of Illinois at Urbana Champaign, Univ. of Illinois at Urbana-Champaign, Washington Univ. at St. Louis, Univ. of Illinois at Chicago, The Washington Univ. Sch. of Med., Univ. of Illinois at Chicago Dept. of Chem.*

POSTER

397. Pain: Thalamus, Cortex, and Amygdala Processing

Theme D – Sensory Systems

Mon. 1:00 PM – *McCormick Place, Hall A*

1:00 M10 **397.01** Closed loop brain machine interface modulation of acute pain in rats. Q. ZHANG*; R. TALAY; S. HU; Z. XIAO; B. CARAVAN; L. HU; Z. CHEN; J. WANG. *NYU Sch. of Med., Zhejiang Univ., New York Univ. Sch. of Med., New York Univ., NYU Sch. of Med.*

2:00 M11 **397.02** Hyperexcitability of mPFC-NAc neurons in a mouse model of incision pain. S. ZHOU*; K. C. JONES; B. K. ATWOOD; P. L. SHEETS. *Indiana Univ. Sch. of Med., Indiana Univ. Sch. of Med., Indiana Univ. Sch. of Med., Stark Neurosciences Res. Institute, Indiana U.*

3:00 M12 **397.03** Pain and brain oscillations in freely moving mice: Searching for an electrographic signature of pain. J. ZHANG*; S. PONSEL; M. PILZ; Y. YANOVSKY; J. BRANKAčK; A. DRAGUHN. *Heidelberg Univ., Heidelberg Univ.*

4:00 M13 **397.04** High frequency oscillations (HFOs) as a promising neural signature in response to noxious stimulus. Z. WANG*; Y. B. PENG. *Univ. of Texas At Arlington.*

1:00 M14 **397.05** Epigenetic control of chronic pain and related brain remodeling. M. V. CENTENO*; M. ALAM; K. HALDAR; A. APKARIAN. *Northwestern Univ., Univ. of Notre Dame, Univ. of Notre Dame, Northwestern Univ., Northwestern Univ.*

2:00 M15 **397.06** Gene expression profiling of the rat hippocampus during chronic inflammatory pain. A. ASH; E. KOKKINOS; D. NERLAND; G. BERENBEIM; B. WILKE; L. SEMKE; L. POINTS; M. GIRGENTI; R. DUMAN; V. DURIC*. *Des Moines Univ., Yale Univ. Sch. of Med.*

3:00 M16 **397.07** Lateral hypothalamic fast-spiking parvalbumin neurons modulate nociception through connections in the periaqueductal gray area. J. N. SIEMIAN*; C. B. BORJA; S. SARSFIELD; A. KISNER; Y. APONTE. *Natl. Inst. On Drug Abuse.*

4:00 M17 **397.08** Comparison of CANE-RV and EnvA-RV when using CANE to capture nociceptive neurons in VPM. M. UMORIN*; P. R. KRAMER. *Texas A&M Univ. Col. of Dent.*

1:00 M18 **397.09** Opioid antagonists attenuate NSAIDs-induced antinociception in anterior cingulate cortex of rats. M. G. TSAGARELI*; N. TSIKLAURI; N. TSAGARELI; I. KVACHADZE. *Ivane Beritashvili Exptl. Biomedicine Ctr., Tbilisi State Med. Univ.*

2:00 M19 **397.10** Resting-state fMRI reveals reduced brain communication in a mouse model of generalized pain. M. T. NASSEEF*; W. MA; J. P. SINGH; N. DOZONO; K. LANCON; P. A. SEGUELA; H. UEDA; E. DARCQ; B. L. KIEFFER. *McGill Univ., McGill Univ., Douglas Hosp. Res. Ctr., Kyoto Univ. Grad. Sch. of Pharmaceut. Sci., Montreal Neurolog. Institute, McGill Univ., Montreal Neurolog. Inst., Douglas Res. Centre/McGill Univ., Douglas Hosp. Res. Ctr.*

3:00 M20 **397.11** Imaging cortical circuitry during general anesthesia: Insights into cortical pain processing. J. A. P. WEINRICH*; M. X. BERNSTEIN; C. R. ANDOLINA; A. I. BASBAUM. *Univ. of California San Francisco.*

• Indicated a real or perceived conflict of interest, see page 150 for details.
▲ Indicates a high school or undergraduate student presenter.
* Indicates abstract's submitting author

4:00 M21 **397.12** A partial connectome in mice of the thalamocortical input from a higher order thalamic nucleus, POm, to the secondary somatosensory cortical area, S2. V. SAMPATHKUMAR*; A. J. MILLER; S. SHERMAN; N. B. KASTHURI. *Univ. of Chicago, Univ. of Chicago, Univ. Chicago.*

1:00 M22 **397.13** The partial connectome of the layer 5 corticothalamic projection from primary motor and sensory cortex to the higher order somatosensory thalamic nucleus, POm. M. S. SHERMAN*; N. KASTHURI; V. SAMPATHKUMAR; A. J. MILLER. *Univ. Chicago, Univ. of Chicago.*

2:00 M23 **397.14** Involvement of descending pain inhibitory system mediated by orexin/orexin 1 receptor in the regulation of central post-stroke pain. W. MATSUURA*; S. TOKUYAMA. *Kobe Gakuin Univ., Kobe Gakuin Univ.*

3:00 M24 **397.15** Involvement of cerebral and spinal nicotinic acetylcholine receptor mediated system in the regulation of central post-stroke pain. S. TOKUYAMA*; W. MATSUURA. *Kobe Gakuin Univ.*

4:00 M25 **397.16** Role of Lipocalin-2 (Lcn2) in the limbic pain processing. E. KOKKINOS; A. ASH; D. NERLAND; B. WILKE; G. BERENBEIM; L. SEMKE*; L. POINTS; V. DURIC. *Des Moines Univ.*

1:00 M26 **397.17** Cell type specific midbrain and extended amygdala contributions to sex differences in pain and drug use. W. YU*; T. KASH. *UNC Chapel Hill.*

2:00 M27 **397.18** CGRP in the left amygdala reduces bladder pain in female mice. H. ALLEN*; A. COX; B. J. KOLBER. *Duquesne Univ.*

3:00 M28 **397.19** Parabrachial to central amygdala neural circuit for the modulation of pathological pain. T. D. WILSON*; A. ADKE; J. J. BECKER; S. MARTINEZ-GONZALES; Y. K. SUGIMURA; Y. CARRASQUILLO. *NIH, The Natl. Inst. of Hlth., Jikei Univ. Sch. of Med., NIH.*

4:00 M29 **397.20** Inhibition of neuropathic pain by glial regulation in the insular cortex. S. CHOI*; K. KIM; M. CHA; S. HONG; B. LEE. *Yonsei Univ. Col. of Med., Brain Korea 21 PLUS Project for Med. Science, Yonsei Univ., Mokwon Univ.*

1:00 M30 **397.21** Chronic pain promotes integration of sensory and affective cortical circuits. A. K. SINGH*; Q. ZHANG; X. GUO; D. PATEL; R. TALAY; L. HU; E. ROBINSON; H. KEMPRECOS; E. MARTINEZ; Z. CHEN; J. WANG. *New York Univ., NYU Sch. of Med., New York Univ. Sch. of Med., NYU Sch. of Med.*

2:00 M31 **397.22** Posterior insular cortex encodes non-painful thermal perception. M. VESTERGAARD*; M. CARTA; J. F. A. POULET. *Max-Delbrück Ctr. for Mol. Med. (MDC), Univ. of Bordeaux.*

3:00 M32 **397.23** Modulating pain by auditory neural entrainment. R. HUNG*; I. LOW; T. LIN; H. FU; H. LI; L. CHEN; J. HSIEH. *Natl. Yang-Ming Univ., Industrial Technol. Res. Inst., Taipei Veterans Gen. Hosp., Natl. Yang-Ming Univ.*

4:00 M33 **397.24** Zona incerta stimulation in humans differentially modulates perception of heat pain and thermal grill sensation. C. W. LU*; D. E. HARPER; S. E. HARTE; P. G. PATIL. *Univ. of Michigan, Univ. of Michigan, Univ. of Michigan, Univ. of Michigan.*

POSTER

398. Central Nervous System Mechanisms in Pain

Theme D – Sensory Systems

Mon. 1:00 PM – *McCormick Place, Hall A*

1:00 M34 **398.01** Early postnatal exposure to general anesthesia agent causes chronic neuropathic pain via activation of mTOR signaling pathway in pain circuits. Q. LI*; R. P. MATHENA; N. EREGHA; C. D. MINTZ. *Johns Hopkins Sch. of Med.*

2:00 M35 **398.02** The effect of GlyT2 inhibitors on glycinergic neurotransmission in the spinal cord dorsal horn. C. A. NATALE*; T. RAWLING; S. N. MOSTYN; K. AUBREY; R. J. VANDENBERG; M. J. CHRISTIE. *Univ. of Sydney, Univ. of Technol. Sydney, Univ. of Sydney.*

3:00 M36 **398.03** Expression analysis of BEGAIN mRNA and protein in the nervous systems. T. KATANO*; K. KONNO; K. NISHIDA; M. WATANABE; K. SAKIMURA; S. ITO; T. KOBAYASHI. *Kansai Med. Univ., Hokkaido Univ. Sch. of Med., Brain Res. Institute, Niigata Univ., Osaka Med. Col.*

4:00 M37 **398.04** Sex specific effects of paclitaxel on genes expression in prefrontal cortex. L. LIANG*; J. WEI; F. GAO; B. NAGENDRA; L. TIAN; H. WANG; L. XU; F. HUO; S. LU. *Xi'An Jiaotong Univ. Hlth. Sci. Ctr.*

1:00 M38 **398.05** An EEG-AI classifier of chronic pain. M. M. EDHI*; J. LEVITT; K. S. SCARFO; A. G. CARAYANNOPOULOS; J. W. GU; K. H. SRIVASTAVA; B. A. CLARK; R. ESTELLER; C. Y. SAAB. *Rhode Island Hosp., Carney Inst. for Brain Science/Brown Univ., Boston Scientific.*

2:00 M39 **398.06** ▲ Dorsal raphe nucleus glutamatergic neurons innervate mesolimbic system and regulate chronic pain. S. HU*; D. LIU; Q. ZHANG; J. YANG; M. ABDUL; S. XIA; J. CAO. *Xuzhou Med. Univ.*

3:00 M40 **398.07** Suppression of the inhibitory amygdala-parabrachial pathway contributes to chronic pain. C. RAVER; O. UDDIN; Y. LI; Y. JI; N. CRAMER; R. MASRI; A. KELLER*. *Univ. of Maryland Sch. of Med.*

4:00 M41 **398.08** Modulation of mechanosensory vibrissal responses in the trigeminocervical complex by stimulation of the greater occipital nerve. N. GARCÍA MAGRO*; Y. MARTIN; P. NEGREDO; A. NUNEZ; C. AVENDANO. *Autonoma Univ. of Madrid, Francisco de Vitoria Univ. CIF – G80480197.*

1:00 M42 **398.09** ▲ Role of α_5GABA$_A$ receptors in diabetic neuropathy and modulation of the Hoffmann reflex and primary afferent excitability. J. HERNÁNDEZ-REYES; A. SALINAS-ABARCA; G. VIDAL-CANTÚ; G. RAYA-TAFOLLA; D. ELÍAS-VIÑAS; V. GRANADOS-SOTO; R. DELGADO-LEZAMA*. *Cinvestav, IPN, Cinvestav, IPN, Cinvestav, IPN, Dept. De Farmacobiologia, Cinvestav, Coapa.*

2:00 M43 **398.10** TLQP-62, a neuropeptide upregulated by nerve injury, facilitates spinal BDNF release. A. G. J. SKORPUT*; J. L. COOK; R. GORE; M. S. RIEDL; L. VULCHANOVA. *Univ. of Minnesota, Univ. of Minnesota Dept. of Neurosci.*

3:00 M44 **398.11** Alterations in pre limbic - periaqueductal grey functional connectivity regulates the temporal development of neuropathic pain in rats. R. DRAKE*; R. APPS; A. PICKERING; B. LUMB. *Univ. of Bristol.*

• Indicated a real or perceived conflict of interest, see page 150 for details.
▲ Indicates a high school or undergraduate student presenter.
* Indicates abstract's submitting author

4:00 N1 **398.12** A cortico-accumbens CRF-ergic circuit for pain sensation. W. ZHAO*; X. WANG; Y. MA; G. ZHANG; Y. YU; B. FAN; J. YANG; A. MANNAN; H. ZHANG; J. CAO. *Xuzhou Med. Univ., Xuzhou Med. Univ., Dept. of Anesthesiology, Affiliated Hosp. of Xuzhou Med. Univ.*

1:00 N2 **398.13** Tn pain relief leads to a bilateral volumetric increase in hippocampal subfields. A. NOORANI*; S. HUNG; J. ZHANG; M. HODAIE. *Univ. of Toronto, Univ. of Toronto.*

2:00 N3 **398.14** Alleviating neuropathic pain by overexpression of a non-functional colony stimulating factor-1 receptor. S. V. GUSHCHINA; P. K. YIP; G. A. PARRY; H. SIVAKUMAR; J. LI; M. LIU; X. BO*. *Queen Mary Univ. of London, Ogarev Mordovia State Univ., Hubei Univ. of Med.*

3:00 N4 **398.15** Role of the interaction between GluN2B subunit and PSD-95 in neuropathic pain after peripheral nerve injury. Y. KIM*; Y. YOON. *Korea Univ. Col. of Med., Korea Univ. Col. of Med.*

4:00 N5 **398.16** Low threshold-afferent-driven inhibition of spinal lamina I neurons. Y. ANDRIANOV; D. SHEVCHUK; N. TRETIAK; B. V. SAFRONOV; N. V. VOITENKO; P. V. BELAN*. *Bogomoletz Inst. of Physiol., Kyiv Academic Univ., IBMC, Bogomoletz Inst. of Physiol.*

1:00 N6 **398.17** Alleviation of neuropathic pain by the inhibition of mTOR complex in the insular cortex. K. KIM*; S. CHOI; M. CHA; S. HONG; J. LEEM; B. LEE. *Yonsei Univ. Col. of Med., Brain Korea 21 PLUS Project for Med. Science, Yonsei Univ., Mokwon Univ.*

2:00 N7 **398.18** Putative roles of secretogranin V and its metabolites in human osteoarthritic chronic pain. F. C. K. TAN*; I. K. M. CHEAH; C. LI; W. LIU; H. J. NEO; C. M. LOW; S. KHANNA; T. L. LEE; L. K. TI. *Natl. Univ. Hosp., Natl. Univ. of Singapore, Natl. Univ. of Singapore, Natl. Univ. of Singapore.*

3:00 N8 **398.19** ● Comparing the firing patterns of superficial dorsal horn neurons evoked by robotically automated and human manual brushing and Von Frey hair stimulation. D. C. LEE*; J. E. LEE; K. LEE; Z. KAGAN; K. BRADLEY. *Nevro, ANCroid Robotics.*

4:00 N9 **398.20** ● S1PR1 induced mechano-hypersensitivities are mediated by alterations in adenosine signaling. F. LAURO*; L. A. GIANCOTTI; Z. CHEN; T. M. DOYLE; C. M. HARADA; D. SALVEMINI. *St. Louis Univ. Sch. of Med.*

1:00 N10 **398.21** Calcineurininhibition increases glutamatergic input to spinal dorsal horn neuronsand pain hypersensitivity through α2δ-1-bound NMDA receptors. Y. HUANG*; S. CHEN; H. CHEN; Y. LUO; H. PAN. *Univ. of Texas MD Anderson Cancer Ctr.*

2:00 N11 **398.22** Identification of the function dorsal horn calretinin-expressing interneurons to the processing of pain inputs. H. PETITJEAN*; F. B. BOUROJENI; D. TSAO; A. DAVIDOVA; S. G. SOTOCINAL; J. S. MOGIL; A. KANIA; R. SHARIF NAEINI. *McGill Univ., IRCM, (IRCM) Inst. de Recherches Cliniques de Montreal.*

3:00 N12 **398.23** Defining pre- and post-synaptic Ca^{2+} signaling in the spinal cord in pain sensitization. A. KEYES*; C. WARWICK; L. SHUTOV; V. KROTOV; P. BELAN; Y. USACHEV. *Univ. of Iowa, Bogomoletz Inst. of Physiol., Univ. of Iowa.*

4:00 N13 **398.24** Neuromodulation of pain processing in the dorsal horn circuit. P. SACRÉ*; G. DRION; Y. GUAN; S. V. SARMA. *Univ. of Liège, Johns Hopkins Univ., Johns Hopkins Univ.*

1:00 N14 **398.25** Multidimensional approach of experimental chronic neuropathic orofacial pain: From behavioral to neuronal correlates. C. D. MONTES-ANGELES*; E. PERRUSQUIA-HERNÁNDEZ; R. D. ANDRADE-GONZÁLEZ; I. O. PÉREZ-MARTÍNEZ. *Univ. Nacional Autonoma De Mexico.*

2:00 N15 **398.26** Sex specific DNA methylation pattern in spinal cord and periaqueductal gray (PAG) before and after peripheral nerve injury. S. GHAZISAEIDI*; P. SHOOSHTARI; E. CHATER-DIEHL; Y. TU; S. ASSI; A. RAMANI; A. S. SENGAR; R. WEKSBERG; M. BRUDNO; M. W. SALTER. *Univ. of Toronto, The Hosp. for Sick Children, The Hosp. for Sick Children, The Hosp. for Sick Children, The Hosp. for Sick Children, Univ. of Toronto, Hosp. for Sick Children.*

3:00 N16 **398.27** Susceptibility and resistance to chronic pain: Sex is important. M. R. GUIMARÃES*; C. MIRANDA; A. M. CUNHA; S. ROQUE; M. ESTEVES; N. D. ALVES; N. SOUSA; M. CORREIA-NEVES; A. ALMEIDA; H. LEITE-ALMEIDA. *Life and Hlth. Sci. Res. Inst. (ICVS).*

4:00 N17 **398.28** Resolving the molecular identity and connectivity of amygdalar neural ensembles active during pain. D. J. BERG*; C. CHEN; B. AHANONU; M. CHEN; S. QUAKE; M. SCHNITZER; G. SCHERRER. *Stanford Univ.*

1:00 N18 **398.29** Maladaptive cortical plasticity associated with neuropathic pain after SCI. G. H. BLUMENTHAL*; V. BRACCHI-RICARD; B. NANDAKUMAR; J. R. BETHEA; K. A. MOXON. *Univ. of California, Davis, Drexel Univ., Drexel Univ.*

2:00 N19 **398.30** The role of dopamine in the processing of chronic pain signals in the mouse prefrontal cortex. S. HUANG*; E. GAMBETA; C. THOMAS; N. GODFREY; Z. ZHANG; S. BORGLAND; G. ZAMPONI. *Hotchkiss Brain Institute, Univ. of Calgary.*

POSTER

399. Chemosensory Processing II

Theme D – Sensory Systems

Mon. 1:00 PM – *McCormick Place, Hall A*

1:00 N20 **399.01** Dual GABA/acetylcholine basal forebrain input on a specific periglomerular cell subtype in the olfactory bulb. D. DESAINTJAN*. *CNRS.*

2:00 N21 **399.02** Protein kinase inhibitor beta may be a specific marker for mitral cells in the olfactory bulb. A. KOLDAEVA; C. ZHANG; S. TAKAHASHI; H. MATSUNAMI; I. FUKUNAGA*. *OIST Grad. Sch., Univ. of Tsukuba, Howard Hughes Med. Inst. - Duke Univ.*

3:00 N22 **399.03** Flexible categorization in the mouse olfactory bulb. E. KUDRYAVITSKAYA*; E. MAROM; D. PASH; A. MIZRAHI. *The Edmond and Lily Safra Ctr. For Brain Sci. (ELSC), The Hebrew Univ. of Jerusalem.*

4:00 N23 **399.04** ● Large-scale functional mapping of population dynamics in the main olfactory bulb by CHIME recordings. M. KOLLO*; R. R. RACZ; T. WARNER; A. M. OBAID; M. HANNA; J. J. HARRIS; M. R. ANGLE; J. MUELLER; A. HIERLEMANN; N. MELOSH; A. T. SCHAEFER. *Francis Crick Inst., Stanford Univ., Paradromics Inc, MaxWell Biosystems, ETH Zurich.*

● Indicated a real or perceived conflict of interest, see page 150 for details.
▲ Indicates a high school or undergraduate student presenter.
* Indicates abstract's submitting author

1:00 N24 **399.05** Hebbian model of the structural plasticity in the olfactory bulb. J. H. MENG; S. SAHA; K. SAILOR; P. LLEDO; H. RIECKE*. *Northwestern Univ., Pasteur Inst.*

2:00 N25 **399.06** Cholinergic modulation of local and top-down GABAergic inhibition in the olfactory bulb. P. S. VILLAR; R. HU*; R. C. ARANEDA. *Univ. of Maryland.*

3:00 N26 **399.07** Dynamics of spike time encoding in the olfactory bulb. J. C. WERTH*; T. A. CLELAND. *Cornell Univ.*

4:00 N27 **399.08** Epigenomic identity of cell types in the olfactory bulb and peduncle with single cell resolution. W. I. DOYLE*; E. J. ARMAND; F. XIE; R. FANG; A. C. RIVKIN; R. CASTANON; J. R. NERY; X. HOU; K. SMITH; S. PREISSL; C. LUO; B. TASIC; M. BEHRENS; B. REN; H. ZENG; J. R. ECKER; E. A. MUKAMEL. *UCSD, UCSD, UCSD, Salk Inst. for Biol. Studies, Univ. of California San Diego, Allen Inst. for Brain Sci., Howard Hughes Med. Inst., Allen Inst. for Brain Sci., The Salk Inst. for Biol. Studies, Univ. of California San Diego, Ludwig Inst. for Cancer Res., Allen Inst. for Brain Sci.*

1:00 N28 **399.09** A search for neural metrics of odor identity perception. H. NAKAYAMA*; D. RINBERG. *NYU Langone Med. Ctr., New York Univ.*

2:00 N29 **399.10** Dynamic inhibition of mice olfactory bulb output by the anterior olfactory nucleus. R. MEDINACELI QUINTELA; L. WALLHORN; J. BAUER; M. ROTHERMEL*. *RWTH Aachen Univ.*

3:00 N30 **399.11** ● Utilizing 3D spatial transcriptomics to generate a comprehensive map of glomerular identity in the mouse olfactory bulb. N. L. KLIMPERT*; A. MOLLBRINK; K. THRANE; C. BOSCH; A. T. SCHAEFER; J. LUNDEBERG; A. FLEISCHMANN. *Brown Univ., Sci. for Life Laboratory, Dept. of Gene Technology, KTH Royal Inst. of Technol., Francis Crick Inst., Univ. Col. London.*

4:00 N31 **399.12** Odor-dependent spatial patterns of odor identity coding in the olfactory bulb. B. LI*; P. LIU; S. PUN; F. WAN; M. VAI; A. KLUG; A. LI; T. C. LEI. *Univ. of Colorado Anschutz Med. Campus, Univ. of Colorado Denver, Univ. of Macau, Univ. of Macau, Xuzhou Med. Univ.*

1:00 N32 **399.13** MCHR1 localizes to primary cilia of olfactory bulb granule cells and modulates glomerular responses to odors. K. R. JASSO*; J. M. ROSS; H. KULAGA; M. L. FLETCHER; R. R. REED; J. C. MCINTYRE. *Univ. of Florida, Univ. of Tennessee Hlth. Sci. Ctr., Johns Hopkins Univ., Univ. of Tennessee Hlth. Sci. Ctr., Johns Hopkins Univ. Sch. of Med.*

2:00 N33 **399.14** Ultrastructure and function of a genetically-identified mouse glomerular column studied by correlative *in vivo* physiology, synchrotron X-ray tomography and volume electron microscopy. C. BOSCH PIÑOL*; T. ACKELS; A. PACUREANU; C. PEDDIE; M. BERNING; N. RZEPKA; M. ZDORA; M. STORM; I. WHITELEY; L. COLLINSON; T. W. MARGRIE; A. T. SCHAEFER. *The Francis Crick Inst., Univ. Col. London, ESRF, The European Synchrotron, The Francis Crick Inst., Max Planck Inst. For Brain Res., scalable minds GmbH, Harwell Sci. and Innovation Campus, Univ. Col. London, Sainsbury Wellcome Ctr.*

3:00 N34 **399.15** Functional role of NRG1/ErbB4 signaling in odor discrimination. Z. TAN*; Y. LIU; F. LIU; W. XIONG; L. MEI. *Case Western Reserve Univ., Augusta Univ., Case Western Reserve Univ.*

4:00 N35 **399.16** Robustness and complexity of olfactory coding are endowed by distinct mechanisms of neural plasticity. M. A. STOPFER*; S. HANEY; B. KIM; Z. ALDWORTH; N. RULKOV; M. BAZHENOV. *NIH, UCSD, UCSD.*

1:00 N36 **399.17** Precise optical probing of perceptual detection in olfactory circuits. J. V. GILL*; G. M. LERMAN; S. SHOHAM; D. RINBERG. *New York Univ., NYU Langone Hlth., NYU Langone Hlth.*

2:00 N37 **399.18** Optophysiological mapping of synaptic inputs to adult-born granule cells in the olfactory bulb. J. L. WALLACE*; J. D. ZAK; V. N. MURTHY. *Harvard Univ., Harvard Univ., Harvard Univ.*

3:00 N38 **399.19** Active sampling optimizes processing of fluctuations in odor concentration. A. PARABUCKI; A. BIZER; R. SHUSTERMAN*. *Weizmann Inst. of Sci., Univ. of Haifa, Univ. of Oregon.*

4:00 N39 **399.20** Phase referenced LFP power carries information on odor identity in proficient animals in the olfactory bulb. J. LOSACCO*; D. RESTREPO. *Univ. of Colorado Anschutz Med. Campus.*

1:00 N40 **399.21** Processing of intermittent odor plumes through population activity between glomerular networks in the mouse olfactory bulb. S. M. LEWIS*; L. XU; M. F. TARIQ; V. GOPAL; A. SEMINARA; M. STERN; D. H. GIRE. *Univ. of Washington, USC, Univ. of Washington, Elmhurst Col., CNRS, Univ. of Washington.*

2:00 N41 **399.22** The olfactory bulb contributes to the accommodation of odor responses: The input-output transformation. D. A. STORACE*; L. B. COHEN. *Florida State Univ., Yale Univ. Dept. of Cell. and Mol. Physiol.*

3:00 N42 **399.23** Estrogen regulates olfactory glomerular development and neuronal activity of the olfactory bulb via specific glial progenitor cells. A. TAKESONO*; P. SCHIRRMACHER; M. J. WINTER; A. SCOTT; J. M. GREEN; O. LEE; H. WAI; T. KUDOH; C. R. TYLER. *Univ. of Exeter.*

4:00 N43 **399.24** Contextual changes of olfactory bulb dynamics by cortical inputs. C. L. LINSTER*; L. M. KAY. *Cornell Univ., The Univ. of Chicago.*

1:00 N44 **399.25** Elaborating the role of olfactory bulb granule cell excitation in gating beta oscillations. Z. ZHENG*; L. M. KAY*. *Univ. of Chicago, Univ. of Chicago.*

2:00 N45 **399.26** Effects of olfactory bulb dynamics on cortical odor responses. O. D. ESCANILLA*; K. MAMA; M. EINHORN; T. A. CLELAND; C. LINSTER. *Cornell Univ., Cornell Univ., Cornell Univ.*

3:00 N46 **399.27** The logic of olfactory bulb outputs revealed by high-throughput single-neuron projection mapping using sequencing. Y. CHEN*; X. CHEN; J. M. KEBSCHULL; A. NARASIMHAN; A. KOULAKOV; A. M. ZADOR; D. F. ALBEANU. *Cold Spring Harbor Lab., Cold Spring Harbor Lab., Cold Spring Harbor Lab.*

POSTER

400. Peripheral Vestibular System

Theme D – Sensory Systems

Mon. 1:00 PM – *McCormick Place, Hall A*

1:00 O1 **400.01** ▲ MTK analysis of interactions between crista junctions in “tethered” and “untethered” regions of mitochondria in the subcuticular plate region of type I vestibular hair cells. N. LABAN; A. KAMBALYAL; R. BAHARI; G. PERKINS; A. LYSAKOWSKI*. *Univ. of Illinois at Chicago, Univ. of Illinois at Chicago, Univ. of California at San Diego, Univ. of Illinois at Chicago.*

• Indicated a real or perceived conflict of interest, see page 150 for details.
▲ Indicates a high school or undergraduate student presenter.
* Indicates abstract's submitting author

2:00 O2 **400.02** ▲ Structural and functional characteristics of mitochondria in efferent boutons. V. BABU*; N. LABAN; J. KULAGA; J. LESUS; G. PERKINS; A. LYSAKOWSKI. *Univ. of Illinois at Chicago, Univ. of Illinois at Chicago, Natl. Ctr. for Microscopy and Imaging Research, Univ. California at San Diego, Univ. of Illinois at Chicago.*

3:00 O3 **400.03** ▲ Structural differences in mitochondria adjacent to the cuticular plate in vestibular hair cells. H. SATTAR*; V. BABU; K. ARIAS; M. PATEL; J. KULAGA; J. LESUS; G. PERKINS; A. LYSAKOWSKI. *Univ. of Illinois at Chicago, Univ. of Illinois at Chicago, Univ. of Illinois at Chicago, Natl. Ctr. for Microscopy and Imaging Res.*

4:00 O4 **400.04** Phase-locking of calyx-bearing vestibular afferent neurons and the role of quantal and non-quantal transmission. M. M. IVERSEN*; B. R. POPE; R. D. RABBITT. *Univ. of Utah, Univ. of Utah.*

1:00 O5 **400.05** Histamine potentiates ASIC currents in isolated neurons of the vestibular ganglia of the rat. R. VEGA*; S. SÁNCHEZ; E. SOTO. *Benemerita Univ. Autonoma De Puebla, Benemerita Univ. Autonoma de Puebla, Benemerita Univ. Autonoma De Puebla.*

2:00 O6 **400.06** Impact of diverse voltage-gated sodium currents on firing patterns of vestibular afferent neurons. S. BAEZA LOYA*; R. EATOCK. *Univ. of Chicago.*

1:00 DP08/O7 **400.07** (Dynamic Poster) Infrared photo-sensitivity is modulated by TRPV4 in type I vestibular hair cells in *in vivo* rat model. F. M. RACITI*; W. JIANG; S. RAJGURU. *Univ. of Miami, Univ. of Miami, Univ. of Miami.*

4:00 O8 **400.08** Modelling neurotransmission at the vestibular hair cell synapse. A. GOVINDARAJU*; I. H. QURAISHI; A. LYSAKOWSKI; R. EATOCK; R. M. RAPHAEL. *Rice Univ., Yale Sch. of Med., Univ. of Illinois at Chicago, Univ. of Chicago.*

1:00 O9 **400.09** GABA and GABA receptors in zebrafish sensory hair cells and lateral line afferents. J. O'KEEFE; E. BACHE; M. SCHWEHR; C. P. TORO*. *Linfield Col., Sarah Lawrence Col.*

1:00 DP09/O10 **400.10** (Dynamic Poster) Targets of cholinergic terminals within vestibular sensory epithelia. J. J. SALDATE*; F. E. SCHWEIZER; L. F. HOFFMAN. *UCLA - Geffen Sch. of Med., UCLA - Geffen Sch. of Med.*

3:00 O11 **400.11** Intense noise exposure impacts rats' balance beam performance. W. KING*; C. E. STEWART; D. BAUER; M. BATTERSBY; S. T. KATZ; E. G. BEEKMAN; R. A. ALTSCHULER. *Univ. of Michigan, Univ. of Michigan, Univ. of Michigan, Col. of Wooster, Univ. of Michigan, Univ. Michigan.*

4:00 O12 **400.12** Noise-induced injury to saccular affrents is associated with decreased vestibular nerve activity as assessed by the VsEP. C. E. STEWART*; A. KANICKI; D. BAUER; H. HAQUE; R. A. ALTSCHULER; W. KING. *Univ. of Michigan, Univ. of Michigan.*

POSTER

401. Auditory Processing: Vocalizations and Natural Sounds

Theme D – Sensory Systems

Mon. 1:00 PM – *McCormick Place, Hall A*

1:00 O13 **401.01** Responses to infant vocalizations in mouse oxytocin neurons. S. VALTCHEVA*; R. C. FROEMKE. *NYU Sch. of Med., NYU Med.*

2:00 O14 **401.02** Role of top-down inputs in auditory cortex during vocalization in marmoset monkeys. J. TSUNADA; S. J. ELIADES*. *Univ. of Pennsylvania Sch. of Med.*

3:00 O15 **401.03** Variant-independent representation of zebra finch songs in the auditory forebrain. M. DONG*; D. I. NATANOV; M. MOHSEN; D. S. VICARIO. *Rutgers Univ., Rutgers Univ., Rutgers The State Univ. of New Jersey.*

4:00 O16 **401.04** Selective decoding of communication sounds in lateral belt auditory cortex. J. D. DOWNER*; C. E. SCHREINER; B. J. MALONE. *UCSF.*

1:00 O17 **401.05** Auditory memories for communication calls in zebra finches. K. YU*; W. E. WOOD; I. N. RICE; A. A. PRASAD; F. E. THEUNISSEN. *UC Berkeley, UC Berkeley, UC Berkeley, UC Berkeley.*

2:00 O18 **401.06** Genetic and physiological segregation of excitatory vs inhibitory cell types in songbird auditory cortex. J. A. SPOOL*; G. SCARPA; M. MACEDO-LIMA; Y. MOROHASHI; Y. YAZAKI-SUGIYAMA; L. REMAGE-HEALEY. *Univ. of Massachusetts Amherst, Dept Neuropathol & Neurosci, Univ. Tokyo Grad Sch. Pharmaceu Sci., Okinawa Inst. of Sci. and Technol. (OIST) Grad. Univ., Univ. of Massachusetts, Amherst.*

3:00 O19 **401.07** Degraded auditory and visual speech affects theta synchronization and alpha power differently. A. HAUSWALD*; A. KEITEL; S. RÖSCH; N. WEISZ. *Univ. of Salzburg, Univ. of Dundee, Univ. of Glasgow, Paracelsus Med. Univ.*

4:00 O20 **401.08** Speech encoding from simultaneous ECoG recordings of human temporal plane and lateral temporal cortex. L. S. HAMILTON*; Y. OGANIAN; E. F. CHANG. *Univ. of California, San Francisco, Univ. of Texas at Austin, Univ. of Texas at Austin.*

1:00 O21 **401.09** Neural representations of birdsongs across distinct processing regions of auditory cortex. J. M. MOORE*; S. A. SHAMMA; S. M. WOOLLEY. *Columbia Univ., Univ. of Maryland.*

2:00 O22 **401.10** Cell types and connectivity of a vocalization-selective auditory cortical region in the songbird. J. A. EDWARDS*; S. M. WOOLLEY. *Columbia University's Zuckerman Inst.*

3:00 O23 **401.11** Characterization of neural dynamics during tutoring in the zebra finch. A. H. BAHLE*; E. L. MACKEVICIUS; N. DENISSENKO; M. S. FEE. *MIT, Columbia Univ.*

4:00 O24 **401.12** Intracranially recorded neural activity in auditory cortex elicited by simple sounds and during naturalistic verbal interactions in children. A. E. RHONE*; M. STEINSCHNEIDER; B. F. SNOAD; K. V. NOURSKI; C. K. KOVACH; B. J. DLOUHY. *Univ. of Iowa, Albert Einstein Col. of Med.*

1:00 O25 **401.13** Perceptual constancy of naturalistic sounds in macaques. L. LEMUS*; J. MELCHOR; I. MORÁN; T. FIGUEROA. *Univ. Nacional Autonoma De Mexico.*

2:00 O26 **401.14** Encoding of natural sounds in the aging human auditory cortex. J. ERB*; L. SCHMITT; J. OBLESER. *Univ. of Lübeck.*

3:00 O27 **401.15** Fundamental response properties of auditory cortical activity in Heschl's gyrus of children as observed from direct intracranial recordings. M. STEINSCHNEIDER*; A. E. RHONE; K. NOURSKI; C. KOVACH; B. DLOUHY. *Albert Einstein Col. of Med., Univ. of Iowa.*

• Indicated a real or perceived conflict of interest, see page 150 for details.
▲ Indicates a high school or undergraduate student presenter.
* Indicates abstract's submitting author

4:00 O28 **401.16** Left auditory cortex learns the statistics of infant distress sounds. J. SCHIAVO*; S. VALTCHEVA; S. C. SONG; R. C. FROEMKE. *New York Univ. Med. Ctr., NYU Sch. of Med., New York Univ. Langone Med. Ctr., NYU Med.*

1:00 O29 **401.17** Neural correlation codes for sound identification and categorization: The contribution of sound spectrum and envelope correlation structure. X. ZHAI*; M. SADEGHI; F. KHATAMI; F. HE; D. PEDRICK; H. L. READ; I. STEVENSON; M. A. ESCABI. *Univ. of Connecticut, Univ. of California, Univ. of Connecticut, Univ. of Connecticut.*

2:00 O30 **401.18** Encoding vocalizations in background sounds at the cocktail party and in the woods. D. PEDRICK*; X. ZHAI; F. HE; I. STEVENSON; M. A. ESCABI. *Univ. of Connecticut, Univ. of Connecticut, Univ. of Connecticut.*

3:00 O31 **401.19** The auditory dorsal pathway mirrors the semantic hierarchy of speech prediction. L. SCHMITT*; J. ERB; S. TUNE; A. RYSOP; G. HARTWIGSEN; J. OBLESER. *Dept. of Psychology, Univ. of Lübeck, Max Planck Inst. for Human Cognitive and Brain Sci.*

4:00 O32 **401.20** The contribution of stimulus-driven and noise correlation for neural decoding and identification of texture sounds. X. ZHAI; I. STEVENSON; M. A. ESCABI*. *Univ. of Connecticut, Univ. of Connecticut.*

1:00 O33 **401.21** Temporal context invariance reveals neural processing timescales in human auditory cortex. S. V. NORMAN-HAIGNERE*; L. K. LONG; O. DEVINSKY; W. DOYLE; G. M. MCKHANN; C. A. SCHEVON; A. FLINKER; N. MESGARANI. *Columbia Univ., Columbia Univ., NYU Langone Med. Ctr., NYU Langone Med. Ctr., Columbia Univ., Columbia Univ., Columbia Univ.*

POSTER

402. Cellular Mechanisms of Vestibular Control

Theme D – Sensory Systems

Mon. 1:00 PM – *McCormick Place, Hall A*

1:00 O34 **402.01** Electrophysiological responses of the medial vestibular neurons to serotonin application. M. SHINO*; O. NIKKUNI; Y. TAKAYASU; K. CHIKAMATSU. *Otolaryngology Head and Neck Surgery, Gunma Univ. Grad. Sch. of Med.*

2:00 O35 **402.02** Atypical hair cell polarity in the canal cristae of the inner ear of the sea lamprey (Petromyzon marinus): Implications for vestibular system processing. A. A. MAKLAD*; D. GIOVANNUCCI; A. MAHMOUD. *Col. of Med. and Life Sci., Col. of Medicine, Assiut Univ.*

3:00 O36 **402.03** Vestibular neurons with direct projections to the solitary nucleus in the rat. E. K. CHAPMAN; A. H. GAGLIUSO; G. P. MARTINELLI; G. R. HOLSTEIN*. *Icahn Sch. of Med. at Mount Sinai.*

4:00 O37 **402.04** An intersectional viral-genetic strategy for selective targeting of vestibular efferent neurons in awake behaving mice. V. W. K. TUNG*; A. J. MURRAY. *Univ. Col. London.*

1:00 O38 **402.05** Gain scaling adaptation in vestibular thalamus. G. MCALLISTER*; J. CARRIOT; J. X. BROOKS; H. HOOSHANGNEJAD; K. E. CULLEN; M. J. CHACRON. *McGill Univ., Johns Hopkins Univ.*

2:00 O39 **402.06** Focused infrared radiation of vestibular end-organs evokes changes in heart rate and blood pressure. D. RICE*; S. RAJGURU; G. R. HOLSTEIN; G. P. MARTINELLI. *Univ. of Miami, Univ. of Miami, Icahn Sch. of Med. at Mount Sinai, Icahn Sch. of Med. at Mount Sinai.*

3:00 O40 **402.07** Effect of vestibular stimulation by rotation on motor activity rhythm. F. PASQUIER*; N. BESSOT; T. MARTIN; A. GAUTHIER; J. BULLA; P. DENISE; G. QUARCK. *Normandie Univ, UNICAEN, INSERM, COMETE, GIP CYCERON, 14000, Dept. of Mathematics, Univ. of Bergen, Dept. of Psychiatry and Psychotherapy, Univ. Regensburg.*

4:00 O41 **402.08** Vestibular perceptual neuronal substrate coding strategies for representing natural self-motion. J. CARRIOT*; G. MCALLISTER; H. HOOSHANGNEJAD; I. MACKROUS; J. X. BROOKS; K. E. CULLEN; M. J. CHACRON. *McGill Univ., The Johns Hopkins Univ.*

1:00 O42 **402.09** Effect of galvanic vestibular stimulation on motor activity rhythm in human. G. QUARCK*; F. C. PASQUIER; N. BESSOT; A. GAUTHIER; P. DENISE. *Univ. of Caen- COMETE-INSERM.*

2:00 O43 **402.10** Stochastic noise differentially affects neuronal subtypes within the medial vestibular nucleus *in vitro.* S. STEFANI; P. BREEN; J. SERRADOR; M. SCHUBERT; A. J. CAMP*. *Univ. of Sydney, Marcs Institute, Western Sydney Univ., Rutgers New Jersey Med. Sch., Johns Hopkins Med.*

3:00 O44 **402.11** Structural connectivity patterns of visual-vestibular brain areas PIVC and PIC. A. L. BEER*; M. BECKER; S. M. FRANK; M. W. GREENLEE. *Univ. Regensburg, Brown Univ.*

4:00 P1 **402.12** Encoding strategies of natural self-motion in the early vestibular pathway. I. MACKROUS*; J. CARRIOT; K. E. CULLEN; M. J. CHACRON. *McGill Univ., McGill Univ., The Johns Hopkins Univ.*

1:00 P2 **402.13** Development of membrane properties of vestibular neurons in perinatal mice. C. J. DUBOIS*; L. CARDOIT; F. M. LAMBERT; M. THOBY-BRISSON. *université de Bordeaux.*

2:00 P3 **402.14** Characterization of intrinsic membrane properties of vestibulospinal neurons through xenopus development. A. OLECHOWSKI-BESSAGUET*; L. CARDOIT; M. THOBY BRISSON; F. M. LAMBERT. *Univ. of Bordeaux, Univ. of Bordeaux, Univ. De Bordeaux, CNRS UMR 5287, CNRS Univ. of Bordeaux.*

3:00 P4 **402.15** On the organization of electrical coupling between inferior olive neurons, and its influence on synchronized rhythmicity. N. VRIELER*; M. Y. UUSISAARI; Y. YAROM. *Hebrew Univ. of Jerusalem, OIST.*

POSTER

403. Visual Cortex: Circuits

Theme D – Sensory Systems

Mon. 1:00 PM – *McCormick Place, Hall A*

1:00 P5 **403.01** Orientation-dependent bias on connectomes in cat's secondary visual cortex. R. LUSSIEZ*; A. OUELHAZI; S. MOLOTCHNIKOFF. *Univ. of Montreal, Univ. de Montreal.*

• Indicated a real or perceived conflict of interest, see page 150 for details.
▲ Indicates a high school or undergraduate student presenter.
* Indicates abstract's submitting author

2:00 P6 **403.02** A comparison of columnar and laminar neuronal distribution in human and macaque V1. V. GARCIA-MARIN*; J. G. KELLY; M. J. HAWKEN. *New York Univ.*

3:00 P7 **403.03** Cortico-cortical axons of the visual cortex are not myelinated. J. ROY*; E. FRIGON; D. BOIRE. *Univ. Du Quebec A Trois-Rivieres.*

4:00 P8 **403.04** Complete synaptic coverage of dendrites of calcium-binding protein expressing GABAergic interneurons in mouse primary visual cortex. P. TALAPKA*; Z. KOCSIS; L. D. MARSI; V. E. SZARVAS; Z. F. KISVARDAY. *Univ. of Debrecen; Fac. of Med., MTA-DE.*

1:00 P9 **403.05** Whole-brain reconstruction and classification of single spiny neurons in the neocortex of mice. Y. WANG*; P. XIE; X. KUANG; Y. LI; E. SHEN; P. LESNAR; A. FEINER; Y. WANG; H. KUO; Y. YU; Z. ZHOU; H. GONG; Q. LUO; H. PENG; J. HARRIS; H. ZENG. *Allen Inst. for Brain Sci., Wenzhou Med. Univ., Shanghai Univ., Huazhong Univ. of Sci. and Technol.*

2:00 P10 **403.06** Morphological and transcriptomic diversity of somatostatin neurons in mouse visual cortex labeled *in vitro* and *in vivo.* R. DALLEY*; S. KEBEDE; A. MUKORA; G. WILLIAMS; D. SANDMAN; R. DE FRATES; E. SHEN; K. LINK; C. GAMLIN; Z. ZHOU; H. KUO; Y. YU; P. XIE; F. BAFTIZADEH BAGHAL; N. GOUWENS; B. LEE; J. MILLER; R. NICOVICH; Y. WANG; H. PENG; K. SMITH; B. TASIC; Z. YAO; E. LEIN; J. BERG; G. MURPHY; H. ZENG; S. SORENSEN. *Allen Institue for Brain Sci.*

3:00 P11 **403.07** Morphological diversity within and across transcriptomically-defined interneuron types in mouse primary visual cortex. S. A. SORENSEN*; R. DALLEY; C. LEE; S. KEBEDE; A. MUKORA; G. WILLIAMS; D. SANDMAN; K. E. LINK; C. GAMLIN; J. BERG; N. W. GOUWENS; B. R. LEE; J. A. MILLER; R. NICOVICH; H. PENG; K. SMITH; B. TASIC; Z. YAO; J. T. TING; G. J. MURPHY; E. LEIN; C. KOCH; H. ZENG. *Allen Inst. for Brain Sci., Allen Inst. for Brain Sci., Allen Inst. for Brain Sci., Allen Inst. for Brain Sci.*

4:00 P12 **403.08** Electro-transcriptional diversity of interneurons in the mouse visual cortex revealed through standardized patch-seq data collection. A. BUDZILLO*; F. BAFTIZADEH; J. BERG; A. BUCHIN; O. FONG; J. GOLDY; N. W. GOUWENS; B. E. KALMBACH; T. K. KIM; B. R. LEE; J. MILLER; S. MOK; K. SMITH; B. TASIC; Z. YAO; E. LEIN; J. T. TING; S. A. SORENSEN; G. J. MURPHY; H. ZENG. *Allen Inst. for Brain Sci., Allen Inst. for Brain Sci., Allen Inst. for Brain Sci., Allen Inst. for Brain Sci., Allen Inst. for Brain Sci.*

1:00 P13 **403.09** Correspondences between transcriptomic, electrophysiological, and morphological characteristics of interneurons in mouse visual cortex. N. W. GOUWENS*; F. BAFTIZADEH; A. BUDZILLO; R. DALLEY; J. MILLER; S. A. SORENSEN; B. TASIC; Z. YAO; A. ARKHIPOV; G. J. MURPHY; C. KOCH; H. ZENG. *Allen Inst. for Brain Sci.*

2:00 P14 **403.10** Distribution and strength of interlaminar synaptic connectivity in mouse primary visual cortex revealed by two-photon optogenetic stimulation. T. A. HAGE*; A. BOSMA-MOODY; C. A. BAKER; M. B. KRATZ; L. CAMPAGNOLA; S. C. SEEMAN; T. JARSKY; G. J. MURPHY. *Allen Inst. for Brain Sci.*

3:00 P15 **403.11** Extraction of distinct cell types from within a genetically continuous population. E. J. KIM*; Z. ZHANG; L. HUANG; T. ITO; M. W. JACOBS; A. L. JUAVINETT; G. SENTURK; M. HU; M. KU; J. R. NERY; J. R. ECKER; E. M. CALLAWAY. *The Salk Inst. for Biol. Studies, UC Santa Cruz, UC San Diego, Howard Hughes Med. Inst.*

4:00 P16 **403.12** Inter-areal coordination and dendritic integration in visual cortex. D. HERRMANN*; M. FISEK; A. EGEA-WEISS; M. CLOVES; M. HAUSSER. *UCL.*

1:00 P17 **403.13** The feedback receptive field of neurons in the mammalian primary visual cortex. A. KELLER*; M. M. ROTH; M. SCANZIANI. *UCSF, Univ. of California, San Francisco.*

2:00 P18 **403.14** Eye movement information in V1 is carried through feedback projections. S. K. MIURA*; M. SCANZIANI. *Univ. of California San Francisco, Univ. of California, San Francisco.*

3:00 P19 **403.15** Behavioral state and movement strongly modulate mesoscale pan-cortical neural activity. E. D. VICKERS*; S. JO; E. MCCARTHY; D. A. MCCORMICK. *Univ. of Oregon.*

4:00 P20 **403.16** Orientation selectivity to synthetic natural patterns in a cortical-like model of the cat primary visual cortex. H. LADRET*; N. CORTES; L. PERRINET; C. F. CASANOVA. *Univ. de Montreal, Univ. De Montreal, Inst. des Neurosciences de la Timone, Univ. Montreal.*

1:00 P21 **403.17** Modeling the influence of surround suppression on size and contrast tuning in V1 and MT. P. M. BAKER*; W. BAIR. *Univ. of Washington.*

2:00 P22 **403.18** Top-down modulations of bottom-up signal processing in a microcircuit model involving PV, SOM and VIP inhibitory interneurons. N. WAGATSUMA*; S. NOBUKAWA; T. FUKAI. *Toho Univ., RIKEN, Chiba Inst. of Technol., Neural Coding & Brain Computing.*

3:00 P23 **403.19** Characterizing optogenetic rebound effects to parvalbumin expressing interneuron photostimulation in mouse primary visual cortex. J. T. SHAPIRO; J. L. KING; N. A. CROWDER*. *Dalhousie Univ.*

4:00 P24 **403.20** Inhibitory neuronal responses in the primary visual cortex of the aging mouse. C. V. DIENI*; M. SAVAGE; L. SINCICH; P. GAMLIN. *Univ. of Alabama at Birmingham, Univ. of Alabama at Birmingham.*

1:00 P25 **403.21** Probing the role of cortical inhibitory neurons during visual spatial perception. J. DEL ROSARIO*; A. OTSUKI; B. WILLIAMS; L. BLANPAIN; B. HAIDER. *Georgia Inst. of Technol., Emory Univ.*

2:00 P26 **403.22** Long-range cortical connections for circuit optimization of hierarchical visual cortex. S. BAEK*; Y. PARK; W. CHOI; S. PAIK. *Korea Advanced Inst. of Sci. and Technol., Korea Advanced Inst. of Sci. and Technol.*

3:00 P27 **403.23** A long timescale stimulus history effect in the primary visual cortex. H. KIM*; J. HOMANN; D. W. TANK; M. J. BERRY, II. *Princeton Univ.*

4:00 P28 **403.24** Cellular mechanism of visually evoked theta oscillation in mouse primary visual cortex. M. GAO*; A. A. CHUBYKIN. *Purdue Univ., Purdue Univ.*

1:00 P29 **403.25** Visual experience-dependent oscillations and underlying circuit connectivity changes are impaired in V1 of fragile X mice. S. T. KISSINGER*; Q. WU; C. J. QUINN; A. A. CHUBYKIN. *Purdue Univ., Purdue Univ.*

• Indicated a real or perceived conflict of interest, see page 150 for details.
▲ Indicates a high school or undergraduate student presenter.
* Indicates abstract's submitting author

2:00 P30 **403.26** ● Neuropilin-2/plexin-A3 receptors contributes to the proper wiring and function of the mouse primary visual cortex. H. KHDOUR*; T. S. TRAN; P. POLACK. *Rutgers Univ. Newark, Rutgers Univ., Rutgers Univ. - Newark.*

3:00 P31 **403.27** Neural mechanisms for modulation of cortical variability. L. NURMINEN*; A. ANGELUCCI. *Univ. of Utah, Univ. of Utah.*

4:00 P32 **403.28** Three-photon imaging of neural and vascular responses in the visual cortex. A. ROY*; C. LIU; A. SIMONS; D. FARINELLA; P. KARA. *Univ. of Minnesota Twin Cities.*

1:00 P33 **403.29** Four-dimensional mapping of stimulation-induced cortico-cortical spectral responses across the visual areas. A. SUGIURA*; N. MIMURA; K. TANAKA; Y. NAKAI; H. MOTOI; E. ASANO. *Wayne State Univ., Wayne State Univ.*

POSTER

404. Cortical Planning and Execution: Neurophysiology in Nonhuman Primates II

Theme D – Sensory Systems

Mon. 1:00 PM – *McCormick Place, Hall A*

1:00 P34 **404.01** Thalamic afferents to the precuneate cortex of the macaque monkey. M. GAMBERINI*; L. PASSARELLI; D. IMPIERI; P. FATTORI; C. GALLETTI; M. G. ROSA; S. BAKOLA. *Univ. of Bologna, Monash Univ., Monash Univ. Node.*

2:00 P35 **404.02** Sensory and motor properties of physiologically identified neuronal classes in multiple areas of the parieto-frontal grasping network. C. G. FERRONI*; M. MARANESI; A. LIVI; M. LANZILOTTO; D. ALBERTINI; L. BONINI. *Univ. of Parma, Washington Univ. of St Louis.*

3:00 P36 **404.03** View-dependent processing of observed manipulative action in the monkey anterior intraparietal area (AIP). M. LANZILOTTO*; M. MARANESI; A. LIVI; C. G. FERRONI; L. BONINI; G. A. ORBAN. *Univ. of Parma, Washington Univ. of St Louis.*

4:00 P37 **404.04** Linkage of multiple sensory and motor properties in single neuron activity of the macaque anterior intraparietal area. M. MARANESI*; M. LANZILOTTO; A. LIVI; C. G. FERRONI; D. ALBERTINI; L. BONINI. *Univ. of Parma, Washington Univ. of St Louis.*

1:00 P38 **404.05** Connectional gradients underlie functional transitions in monkey pre-supplementary motor area. D. ALBERTINI*; M. GERBELLA; M. LANZILOTTO; A. LIVI; M. MARANESI; C. G. FERRONI; L. BONINI. *Univ. Di Parma, Univ. of Parma, Washington Univ. of St Louis, Univ. of Parma.*

2:00 P39 **404.06** Common reference frames for spatial and non-spatial motor responses in parietal area V6A. K. HADJIDIMITRAKIS; M. GHODRATTI; R. BREVEGLIERI; M. G. ROSA; P. FATTORI*. *Monash Univ., Univ. of Bologna.*

3:00 P40 **404.07** Functional and structural connectivity of the cingulate sulcus visual (CSv) area in macaque monkeys. V. DE CASTRO; C. LEGUEN; Y. HÉJJA-BRICHARD; P. AUDURIER; B. R. COTTEREAU; J. DURAND*. *CNRS CERCO UMR 5549.*

4:00 P41 **404.08** Activity of frontal network for performance of forced-choice manual response task in blindsight monkey. Y. YAMAMOTO*; R. YAMAGUCHI; T. TAKEI; Z. C. CHAO; T. ISA. *Kyoto Univ., Kyoto Univ., Kyoto Univ., Kyoto Univ.*

1:00 P42 **404.09** ● Constraints shape shared vs. separate dynamics in multitask networks. L. N. DRISCOLL*; G. R. YANG; F. WILLETT; K. V. SHENOY; D. SUSSILLO. *Stanford Univ., Columbia, Stanford Univ., Howard Hughes Med. Inst. - Stanford Univers, Google AI.*

2:00 Q1 **404.10** ● Joint modeling of neural population dynamics and behavior in single-trial perceptual decision making. M. D. GOLUB*; C. CHANDRASEKARAN; D. PEIXOTO; M. WANG; W. T. NEWSOME; K. V. SHENOY; D. SUSSILLO. *Stanford Univ., Boston Univ., Stanford Univ. Sch. of Med., Stanford Univ., Howard Hughes Med. Inst., Stanford Univ., Google AI.*

3:00 Q2 **404.11** ● Discrete population states in motor cortex during different arm movement tasks. C. SPONHEIM*; V. PAPADOURAKIS; N. KADMON HARPAZ; N. G. HATSOPOULOS. *Univ. of Chicago, Univ. of Chicago, Harvard Univ., Univ. of Chicago.*

4:00 Q3 **404.12** Developing a motor task platform for freely-behaving common marmosets. M. SUNDIANG*; J. D. WALKER; D. D. MOORE; J. MACLEAN; N. HATSOPOULOS. *Univ. of Chicago.*

1:00 Q4 **404.13** Comparing pose estimation performance using DeepLabCut and marker-based tracking. D. D. MOORE*; J. D. WALKER; J. N. MACLEAN; N. G. HATSOPOULOS. *Univ. of Chicago, Univ. of Chicago.*

2:00 Q5 **404.14** ● Three dimensional dynamics of β oscillation phase in the monkey motor cortex during a reaching task. H. WATANABE*; K. TAKAHASHI; H. MUSHIAKE. *Tohoku Univ., The Univ. of Chicago, The Univ. of Chicago.*

3:00 Q6 **404.15** Rapid visuomotor transformations and multiple gain field effects in primate ventral premotor (PMv) cortex during head-unrestrained reaches. V. NACHER*; H. K. ARORA; V. BHARMAURIA; X. YAN; S. SUN; H. WANG; J. D. CRAWFORD. *York Univ.*

4:00 Q7 **404.16** Early life blindsight: The pulvinar versus lateral geniculate nucleus. D. M. FOX*; I. MUNDINANO; J. A. BOURNE. *Australian Regenerative Med. Inst.*

1:00 Q8 **404.17** ● Mesoscopic patterns in motor cortical excitability facilitate movement initiation. K. BALASUBRAMANIAN*; V. PAPADOURAKIS; W. LIANG; K. TAKAHASHI; M. BEST; A. J. SUMINSKI; N. G. HATSOPOULOS. *Univ. of Chicago, Univ. of Chicago, Univ. of Wisconsin-Madison, Univ. of Wisconsin Madison.*

2:00 Q9 **404.18** Shared and non shared neural subspaces between action execution and multi sensory action observation in the macaque primary motor cortex. V. PAPADOURAKIS*; A. J. SUMINSKI; K. TAKAHASHI; N. G. HATSOPOULOS. *Univ. of Chicago, Univ. of Wisconsin-Madison.*

3:00 Q10 **404.19** Cortical representation of bite force and gape in macaques. F. I. ARCE-MCSHANE; B. J. SESSLE; N. G. HATSOPOULOS; C. F. R. ROSS*. *Univ. of Chicago, Univ. Toronto, Univ. of Chicago.*

• Indicated a real or perceived conflict of interest, see page 150 for details.
▲ Indicates a high school or undergraduate student presenter.
* Indicates abstract's submitting author

POSTER

405. Cerebellum: Cortex and Nuclei I

Theme E – Motor Systems

Mon. 1:00 PM – *McCormick Place, Hall A*

1:00 Q11 **405.01** ▲ Sex differences in purkinje cell density in the cerebellar vermis of mice. W. E. GRISHAM*; W. R. TOMITA. *UCLA.*

2:00 Q12 **405.02** Impact of Purkinje cell simple spike synchrony on signal transmission from flocculus. J. S. STAHL*; A. KETTING-OLIVIER. *Cleveland Dept. of Veterans Affairs Med. Ctr.*

3:00 Q13 **405.03** Purkinje cell firing rate changes in response to alternating current stimulation. H. CHI; S. CHERIAN; M. FALDAS; H. LU*. *PCOM - Georgia Campus.*

4:00 Q14 **405.04** The hypergravity induced disruption of cerebellar motor coordination. W. NOH*; M. LEE; K. KIM; H. KIM; S. YANG. *Incheon Natl. Univ., Inha Univ., Incheon Natl. Univ.*

1:00 Q15 **405.05** Enriched environment shortens the duration of action potentials in cerebellar granule cells. A. ESHRA*; P. HIRRLINGER; S. HALLERMANN. *Univ. Leipzig, Medizinisch-Experimentelles Zentrum, Med. Faculty, Univ. of Leipzig.*

2:00 Q16 **405.06** Functional imaging of the monkey cerebellar cortex during action execution and observation. H. SAVAKI*; V. RAOS. *IACM/FORTH, Univ. of Crete Med. Sch.*

3:00 Q17 **405.07** Dynamic interactions among the anterior cingulate, amygdala and cerebellum during acquisition of trace eyeblink conditioning in rats. H. E. HALVERSON*; J. KIM; J. H. FREEMAN. *Univ. of Iowa, Univ. of Iowa.*

4:00 Q18 **405.08** Predictive processing by Purkinje cells in the vestibular cerebellum during active versus passive rotational and translational self-motion. O. ZOBEIRI*; K. E. CULLEN. *Johns Hopkins Univ., The Johns Hopkins Univ.*

1:00 R1 **405.09** ▲ Differential axonal projections from substantia nigra and ventral tegmental area into cerebellum. A. JUÁREZ-TELLO*; J. A. MENDEZ. *Univ. Autónoma De San Luis Potosí, Univ. Autonoma De San Luis Potosi.*

2:00 R2 **405.10** Sphingolipid levels in cerebellar compartments and its implications in Purkinje cell degeneration. F. G. C. BLOT*; M. KRIJNEN; S. M. DEN HOEDT; C. R. OSORIO; M. T. MULDER; M. SCHONEWILLE. *Erasmusmc, Erasmusmc.*

3:00 R3 **405.11** Whisking related sensorimotor integration in the cerebellar corticonuclear circuit. M. P. MEDINA*; S. T. BROWN; I. M. RAMAN. *Northwestern Univ.*

4:00 R4 **405.12** The role of dystrophin on synaptic function in cerebellar nuclei. T. KREKO-PIERCE*; J. R. PUGH. *UT Hlth. San Antonio, UTHSCSA.*

1:00 R5 **405.13** Reduced molecular layer interneuron inhibition to Purkinje cell in a mouse model of muscular dystrophy. W. WU*; R. D. HOWELL; A. ZANOT; A. GINSBERG; J. R. PUGH. *Univ. of Texas Hlth. Sci. Ctr. at San Antonio.*

2:00 R6 **405.14** Dissecting the organization and function of spinal projecting circuits from the interposed nucleus of the cerebellum. A. R. THANAWALLA*; A. K. K. YIP; N. ZAINOLABIDIN; J. M. CONNER; A. I. CHEN; E. AZIM. *Salk Inst. for Biol. Studies, Nanyang Technological Univ.*

3:00 R7 **405.15** Tottering mutation is not associated with breakdown of vermis Purkinje cell simple spike synchrony. T. L. CONNOR*; A. KETTING-OLIVIER; J. S. STAHL. *Cleveland Dept. Veterans Affairs Med. Ctr., Case Western Reserve Univ.*

4:00 R8 **405.16** Purkinje cell specific $GABA_{A\alpha1}$ - knockout mice display a tremor phenotype. A. K. NIETZ*; C. KROOK-MAGNUSON; H. GUTIERREZ; J. KLEIN; C. SAUVE; S. MITCHELL; E. KROOK-MAGNUSON. *Univ. of Minnesota.*

1:00 R9 **405.17** Cerebellar learning and Purkinje cell physiology abnormalities in the prickle2 knock-out mouse model of autism-like behavior. P. ABBOTT*; J. HARDIE; S. FARLEY; J. FREEMAN; A. BASSUK; K. PARKER. *Univ. of Iowa.*

2:00 R10 **405.18** Cerebellar multiunit recording during exploration and grooming behavior in a model of Parkinsonism in male rats. J. MANZO*; M. G. ROCHA; L. VÁSQUEZ; G. MARÍN; M. MIQUEL; P. CARILLO; M. E. HERNÁNDEZ; G. A. CORIA-AVILA; L. I. GARCÍA*. *Ctr. de Investigaciones Cerebrales, Doctorado en Investigaciones Cerebrales, Univ. Veracruzana, Univ. Jaume I, Inst. de Neuroetología, Univ. Veracruzana.*

3:00 R11 **405.19** Purkinje cell encoding of limb position during skilled reach-to-grasp behavior in mice. D. J. CALAME*; A. L. PERSON. *Univ. of Colorado Sch. of Med.*

4:00 R12 **405.20** A cerebellar neural mechanism of reach precision and its role in motor learning. M. I. BECKER*; A. L. PERSON. *Univ. of Colorado Sch. of Med., Univ. of Colorado Sch. of Med.*

1:00 R13 **405.21** ▲ Cerebellar expression and function of Cabin1. K. M. DUNN*; D. R. HAMMOND-WEINBERGER. *Murray State Univ.*

POSTER

406. Brain-Computer Interface: Algorithms and Analyses

Theme E – Motor Systems

Mon. 1:00 PM – *McCormick Place, Hall A*

1:00 R14 **406.01** A computational model of neural connectivity dynamics in response to optogenetic stimulation of non-human primate sensorimotor cortex. J. BLOCH*; E. T. SHEA-BROWN; A. YAZDAN-SHAHMORAD. *Univ. of Washington, Allen Inst. for Brain Sci., Univ. of Washington.*

2:00 R15 **406.02** Calibration-less p300 speller system using massive data and convolutional neural network. J. LEE*; M. AHN; M. KWON; K. WON; S. JUN. *Handong Global Univ., Gwangju Inst. of Sci. and Technol.*

3:00 R16 **406.03** Optimizing decoding performance and power consumption for closed-loop implantable brain-machine interfaces. S. R. NASON*; A. K. VASKOV; P. G. PATIL; C. A. CHESTEK. *Univ. of Michigan, Univ. of Michigan, Univ. of Michigan, Univ. of Michigan, Univ. of Michigan, Univ. of Michigan.*

4:00 R17 **406.04** Deep multi-state dynamic recurrent neural networks for robust brain machine interfaces. B. HAGHI*; S. KELLIS; M. ASHOK; S. SHAH; L. BASHFORD; D. KRAMER; B. LEE; C. LIU; R. ANDERSEN; A. EMAMI. *Caltech, Caltech, USC.*

1:00 R18 **406.05** Source localization of Mu ERD in response to BCI intervention. K. GJINI; A. REMSIK; M. MAZROOYISEBDANI; L. WILLIAMS; V. A. NAIR*; V. PRABHAKARAN. *Univ. of Wisconsin Madison.*

• Indicated a real or perceived conflict of interest, see page 150 for details.
▲ Indicates a high school or undergraduate student presenter.
* Indicates abstract's submitting author

2:00 R19 **406.06** Accurate prediction of large-scale LFP network dynamics in response to electrical stimulation. Y. YANG*; S. QIAO; O. G. SANI; B. PESARAN; M. M. SHANECHI. *USC, New York Univ., USC.*

3:00 R20 **406.07** Dynamical characteristics of simultaneously-recorded spike and LFP activities underlying movement. H. ABBASPOURAZAD*; Y. WONG; B. PESARAN; M. M. SHANECHI. *USC, Monash Univ., New York Univ.*

4:00 S1 **406.08** Decoder for switching state space models with spike-field observations. C. Y. SONG*; H. HSIEH; M. M. SHANECHI. *USC, USC.*

1:00 S2 **406.09** Decoding human confidence from neural signals. R. N. MANMADHAN*; O. G. SANI; N. SADRAS; C. Y. SONG; P. AHMADIPOURANARI; D. VALERIANI; C. CINEL; L. CITI; R. POLI; M. M. SHANECHI. *USC, Univ. of Essex.*

2:00 S3 **406.10** The topology and geometry of motor cortical dynamics underlying 3D movements. H. HSIEH*; B. PESARAN; M. M. SHANECHI. *USC, New York Univ.*

3:00 S4 **406.11** Multiscale spike-field network causality identification during a motor task. C. WANG*; B. PESARAN; M. M. SHANECHI. *USC, New York Univ.*

4:00 S5 **406.12** A new preferential subspace identification (PSID) algorithm for learning dynamic neural encoding models with behavior-related latent states. O. G. SANI*; B. PESARAN; M. M. SHANECHI. *USC, New York Univ.*

1:00 S6 **406.13** Adaptive modeling of neural network dynamics with optimized learning rate. P. AHMADIPOUR*; Y. YANG; M. M. SHANECHI. *USC, USC.*

2:00 S7 **406.14** Estimating event times from spike trains with a point process matched filter. N. SADRAS*; B. PESARAN; M. M. SHANECHI. *USC, New York Univ.*

3:00 S8 **406.15** Neural signal emulation for closed-loop intracortical brain computer interface decoder design. J. BAE*; M. G. PERICH; L. E. MILLER; Z. C. DANZIGER. *Florida Intl. Univ., Univ. of Geneva, Northwestern Univ.*

4:00 S9 **406.16** ▲ System modeling of brain-neuromuscular functions for developing brain-computer interface. M. MENDOZA; S. CACERES; L. PAN; W. YANG; L. CHOU; V. C. CHEN*. *Loyola Univ. Chicago, Natl. Yang-Ming Univ., Univ. of Illinois at Urbana-Champaign.*

1:00 S10 **406.17** ● Building neural decoders that meet user performance expectations using deep neural networks. D. FRIEDENBERG*; N. SKOMROCK; M. A. SCHWEMMER; J. TING; M. A. BOCKBRADER; G. SHARMA. *Battelle, Univ. of Pittsburgh, Ohio State Univ. Col. of Med.*

2:00 S11 **406.18** Development of a novel auditory-reliant intracortical brain computer interface for effector control and communication in patients with tetraplegia. D. J. THENGONE*; T. HOSMAN; J. D. SIMERAL; L. R. HOCHBERG. *Brown Univ., Brown Univ., VA RR&D Ctr. for Neurorestoration and Neurotechnology, Massachusetts Gen. Hosp., Harvard Med. Sch.*

POSTER

407. Neuro-Muscle Interactions

Theme E – Motor Systems

Mon. 1:00 PM – *McCormick Place, Hall A*

1:00 S12 **407.01** A new protein to improve motor performance with a limited hypertrophic effect in young and old mice. M. BOIDO*; R. SCHELLINO; O. BUTENKO; J. W. VRIJBLOED; R. G. FARIELLO; A. VERCELLI. *Univ. of Turin, PharmaFox AG.*

2:00 S13 **407.02** ▲ Lumbosacral ventral root avulsion: Activation pattern of perineal muscles during micturition and motorneuron survival in a rabbit model. Y. JUÁREZ-ALCOCER; A. BELLO-ZAMORA; C. ACOSTA-ORTEGA; R. ZEMPOALTECA; J. MORALES-MEDINA; F. CASTELÁN; M. MARTÍNEZ-GÓMEZ; D. L. CORONA QUINTANILLA*. *Univ. Autonoma de Tlaxcala, Univ. Autonoma de Tlaxcala, Univ. Autonoma de Tlaxcala, Ctr. de Investigación en Reproducción Animal, Univ. Nacional Autonoma de México, Univ. Autónoma de Tlaxcala.*

3:00 S14 **407.03** Muscle derived BMP4 regulates morphology and function of the neuromuscular junction in mice. J. HARRISON; B. PODOR; V. F. RAFUSE*. *Dalhousie Univ.*

4:00 S15 **407.04** The chromatin remodeling enzyme, kismet, negatively regulates BMP signaling at the *Drosophila* neuromuscular junction. J. A. PRESTON*; B. HARSIN; F. L. W. LIEBL. *Southern Illinois Univ. Edwardsville.*

1:00 S16 **407.05** GRP78 is essential for NMJ formation and maintenance. H. JING*; L. LI; G. XING; H. ZHANG; Z. DONG; W. CUI; Z. YU; N. GAO; W. XIONG; L. MEI. *Case Western Reserve Univ., Georgia Regents Univ.*

2:00 S17 **407.06** Nonlinear properties of song bird vocal muscles change over postnatal development. I. ADAM*; C. P. H. ELEMANS. *Univ. of Southern Denmark.*

3:00 S18 **407.07** Fine-resolution motor control of birdsong. A. MAXWELL*; I. ADAM; H. RÖSSLER; E. BØGH HANSEN; C. P. ELEMANS. *Univ. of Southern Denmark.*

4:00 T1 **407.08** Inter individual variability and reliability of cortico spinal excitability modulation across intermittent, continuous and sham theta burst stimulation in humans. P. O. B. BOUCHER*; R. A. OZDEMIR; S. TADAYON; E. SANTARNECCHI; A. PASCUAL-LEONE; M. SHAFI. *Beth Israel Deaconess Med. Ctr.*

1:00 T2 **407.09** Interfacing motor neurons and skeletal muscle cells with thousands of bi-directional microelectrodes. M. RADIVOJEVIC*; M. LEWANDOWSKA; E. BOGATIKOV; A. R. PUNGA. *Uppsala Univ.*

2:00 T3 **407.10** Exploring novel treatments for disorders that feature defects of the neuromuscular junction structure. M. PANEA*; J. COSSINS; R. WEBSTER; D. BEESON. *Univ. of Oxford.*

3:00 T4 **407.11** Characterisation of human NMJs in aging using electrostimulation for enhanced biopsy-NMJ sampling. S. MARCHAND*; J. VALLÉE; C. PION; J. LAI; J. A. MORAIS; M. BELANGER; M. AUBERTIN-LEHEUDRE; R. ROBITAILLE. *Univ. de Montreal, Groupe de Recherche sur le Système Nerveux Central, Univ. Du Québec À Montréal, Ctr. de Recherche de l'Institut Universitaire de Gériatrie de Montréal, McGill Univ. Hlth. Ctr.*

- • Indicated a real or perceived conflict of interest, see page 150 for details.
- ▲ Indicates a high school or undergraduate student presenter.
- * Indicates abstract's submitting author

4:00 T5 **407.12** A role of lamin A/C in preventing neuromuscular junction decline in aged mice. N. GAO*; K. ZHAO; G. XING; H. JING; L. XIONG; H. GUO; W. XIONG; L. MEI. *Case Western Reserve Univ., Augusta Univ.*

1:00 T6 **407.13** Optimus parameters of electrical stimulation for ischiocavernosus and bulbospongiosus nerves in nulliparous female rabbit. D. A. ZACAPA*; C. HERNÁNDEZ-BONILLA; D. L. CORONA-QUINTANILLA; R. ZEMPOALTECA; F. CASTELÁN; M. ROMERO-ORTEGA; M. MARTÍNEZ-GÓMEZ. *Univ. Autónoma De Tlaxcala, Univ. Autónoma de Tlaxcala, Univ. Nacional Autónoma de México, Univesity of Texas at Dallas.*

2:00 T7 **407.14** Effect of multiparity on the force generated by the obturator internus and bulboglandularis muscles in the vagina and urethra of the female rabbit. C. HERNÁNDEZ BONILLA*; R. ZEMPOALTECA; D. L. CORONA QUINTANILLA; F. CASTELÁN; M. MARTÍNEZ GÓMEZ. *Univ. Autónoma De Tlaxcala, Univ. Autónoma de Tlaxcala, Univ. Nacional Autónoma de México.*

3:00 T8 **407.15** ▲ Identification and expression of glutamate receptors genes in innervated and uninnervated regions of the ventral diaphragm muscle of the moth Manduca sexta. A. MORALES BENITEZ; K. M. YATSKO; R. J. BAYLINE. *Washington & Jefferson Col.*

4:00 T9 **407.16** The synaptic associated microRNA, miR-133b, plays an important role in the progression of Duchenne muscular dystrophy. T. TAETZSCH; D. SHAPIRO*; G. VALDEZ. *Fralin Biomed. Res. Inst., Brown Univ., Brown Univ.*

1:00 T10 **407.17** Argonaute 2 plays a local role in maintaining and repairing injured and ALS-afflicted NMJs. T. TAETZSCH*; D. SHAPIRO; G. VALDEZ. *Virginia Tech., Brown Univ.*

2:00 T11 **407.18** Dynamics of nicotinic acetylcholine receptor subpopulations at the normal and injured neuromuscular synapse *in vivo*. D. ZELADA*; F. BERMEDO-GARCÍA; J. P. HENRÍQUEZ. *Univ. De Concepción.*

3:00 T12 **407.19** Effect of posture on transdiaphragmatic pressure. C. WHITNEY; M. PAREJA-CAJIAO; H. M. GRANSEE; G. C. SIECK; C. B. MANTILLA. *Mayo Clin. Grad. Sch. of Biomed. Sci., Mayo Clin., Mayo Clin., Mayo Clin.*

4:00 T13 **407.20** ▲ Deletion of Lynx1 promotes compensatory reinnervation of NMJs and delays ALS onset. S. K. VAUGHAN; K. T. REGA*; T. D. MYERS; G. VALDEZ. *Fralin Biomed. Res. Inst., Virginia Tech., Brown Univ.*

1:00 T14 **407.21** Lynx1 modulates nAChRs in adult skeletal muscles and contributes to NMJ maintenance. S. K. VAUGHAN*; S. BARBAT; T. D. MYERS; B. S. PRADHAN; T. J. PROSZYNSKI; R. ROBITAILLE; G. VALDEZ. *Fralin Biomed. Res. Inst., Grad. Program in Translational Development, Medicine, and Hlth., Brown Univ., Univ. De Montréal, Nencki Inst. of Exptl. Biol.*

POSTER

408. Hormone Modulation of Behavior and Physiology I

Theme F – Integrative Physiology and Behavior

Mon. 1:00 PM – *McCormick Place, Hall A*

1:00 T15 **408.01** Development of the murine vasopressin system. E. J. SOMMER; E. A. AULINO; H. K. CALDWELL*. *Kent State Univ.*

2:00 T16 **408.02** Peripheral vasopressin 1A receptors in neonatal mice. K. R. DAY*; M. A. GREENWOOD; E. A. D. HAMMOCK. *Florida State Univ.*

3:00 T17 **408.03** Behavioral traits associated with neurodevelopmental disorders in the mice lacking both vasopressin 1a and 1b receptors. F. MAEKAWA*; E. KIMURA; K. SANO; T. ENDO; K. NAKAMURA. *Natl. Inst. for Envrn. Studies, Saitama Univ., Japan Society for the Promotion of Sci., Univ. of Tsukuba, Phenovance Research & Technol., Natl. Res. Inst. Child Hlth. & Develop.*

4:00 T18 **408.04** Molecular signatures for co-transmission within vasopressinergic neurons of mouse and rat central nervous system. L. ZHANG; V. S. HERNANDEZ; L. E. EIDEN*. *Natl. Autonomous Univ. of Mexico, NIH, NIMH-IRP.*

1:00 T19 **408.05** Behavioral and neural investigations in the Brattleboro rat reveal a role for central vasopressin projections in behavioral arousal during adolescence. K. SCHATZ*; L. M. BROWN; A. R. BARRETT; L. C. ROTH; V. GRINEVICH; M. J. PAUL. *Univ. at Buffalo, Univ. of Oslo, Central Inst. of Mental Hlth. (CIMH-ZI), Med. Fac. Mannheim, Heidelberg Univ., Univ. at Buffalo, SUNY.*

2:00 T20 **408.06** Effect of sex and autism diagnosis on oxytocin and vasopressin 1a receptors in the substantia nigra, hippocampus, and primary visual cortex of the human brain. M. C. PALUMBO*; T. C. SIMMONS; A. L. SMITH; M. M. GOODMAN; K. L. BALES; S. M. FREEMAN. *Univ. of California Davis, Emory Univ., Utah State Univ.*

3:00 U1 **408.07** Useful tools for oxytocin studies: A new reporter and a new cre recombinase driver to precisely recapitulate oxytocin receptor expression profiles in mouse brains. Y. U. INOUE*; R. KANEKO; Y. MORIMOTO; T. INOUE. *Natl. Inst. of Neuroscience, NCNP, Gunma Univ. Grad. Sch. of Med.*

4:00 U2 **408.08** Disruption of oxytocin signaling during mouse fetal development results in sex-specific deficits in adult social behaviors. E. A. AULINO*; H. K. CALDWELL. *Kent State Univ., Kent State Univ.*

1:00 U3 **408.09** Mice prefer oxytocin-containing social stimuli. M. TABBAA*; E. A. D. HAMMOCK. *Florida State Univ.*

2:00 U4 **408.10** Oxytocin modulation in social pair-induced fear behavior. M. JANG*; T. JUNG; J. NOH. *Dankook Univ.*

3:00 U5 **408.11** Modulation of pupillary behavior by oxytocin in mice. M. A. GREENWOOD*; E. A. HAMMOCK. *Florida State Univ., Florida State Univ.*

4:00 U6 **408.12** Behavioral effects of an oxytocin receptor antagonist on a mouse modeling the complete deletion of the Williams Syndrome critical region. K. R. NYGAARD*; N. D. KOPP; E. MINAKOVA; S. E. MALONEY; J. D. DOUGHERTY. *Washington Univ. Sch. of Med., Washington Univ. Sch. of Med., Washington Univ. Sch. of Med., Washington Univ. Sch. of Med.*

1:00 U7 **408.13** Molecular anatomy of oxytocin receptors in peripheral sensory ganglia of neonatal mice. R. VAIDYANATHAN*; E. A. HAMMOCK. *Florida State Univ.*

2:00 U8 **408.14** Brain wide input output mapping of hypothalamic oxytocin neurons. S. SON*; Y. KIM. *Col. of Medicine, Penn State Univ.*

3:00 U9 **408.15** Decreased GRIN1 receptor subunit protein expression in the basolateral amygdala of phencyclidine-treated oxytocin knockout mice. K. M. RODRIGUEZ*; H. K. CALDWELL. *Kent State Univ., Brain Hlth. Res. Inst., Kent State Univ.*

• Indicated a real or perceived conflict of interest, see page 150 for details.
▲ Indicates a high school or undergraduate student presenter.
* Indicates abstract's submitting author

4:00 U10 **408.16** Synapsin Ia regulates the oxytocin release in the hypothalamic-neurohypophysial system of adult male rats. C. HUANG*; E. CHEN; C. WANG. *Natl. Taiwan Univ., Natl. Taiwan Univ., Natl. Taiwan Univ., Natl. Taiwan Univ. and Academia Sinica.*

1:00 U11 **408.17** Water deprivation influences predator-triggered fear response: Finding a causal role for the hypothalamic vasopressin system ascending innervations to limbic regions. E. C. GUERRA*; T. G. PADILLA; V. S. HERNÁNDEZ; M. C. CÁRDENAS-AGUAYO; O. R. HERNÁNDEZ-PÉREZ; F. JÁUREGUI; S. LUQUÍN; L. E. EIDEN; L. ZHANG. *Sch. of Medicine, Natl. Autonomous Univ. of Mexico, CUCS Univ. of Guadalajara, NIH, NIMH-IRP.*

2:00 U12 **408.18** OXTR and AVPR1A polymorphisms are associated with religious experience in a functional neuroimaging genetic study. L. DAI*; J. KING; M. FERGUSON; J. NIELSON; H. NAZARLOO; C. CARTER; J. S. ANDERSON; J. R. KORENBERG. *Univ. of Utah, Univ. of Utah, The Kinsey Inst., Kinsey Inst., Univ. of Utah, Univ. of Utah.*

3:00 U13 **408.19** Sexually dimorphic control of parenting behavior by the medial amygdala. R. K. HU*; P. B. CHEN; Y. E. WU; L. PAN; S. HUANG; P. MICEVYCH; W. HONG. *UCLA.*

4:00 U14 **408.20** Effects of corticosterone and estrogen on HPA axis activity and telomeres length in brain areas of female rats. P. C. G. BARCELLOS; L. C. ZANELATTO; B. A. A. S. LEMOS; R. T. C. SALOMA-RODRIGUES; C. R. FRANCI*. *Ribeirao Preto Med. School, USP, Ribeirão Preto Med. School, USP, Ribeirão Preto Med. Sch. , USP.*

POSTER

409. Early-Life Stress

Theme F – Integrative Physiology and Behavior

Mon. 1:00 PM – *McCormick Place, Hall A*

1:00 U15 **409.01** Early life stress induces changes on specific brain areas for cognitive and motivational functions: Inside the multimodal effects of maternal separation in C57BL6J mice. G. TALANI*; D. COLOMBO; E. SAOLINI; G. M. CALANDRA; F. BIGGIO; G. BIGGIO; E. SANNA. *Natl. Res. Council, Univ. of Cagliari.*

2:00 U16 **409.02** Effects of maternal separation paired with juvenile social isolation on adult anxiety-like behavior and perineuronal net-ensheathed parvalbumin interneurons in male and female rats. K. R. GILDAWIE*; J. A. HONEYCUTT; H. C. BRENHOUSE. *Northeastern Univ.*

3:00 U17 **409.03** Early life stress in mice causes a change in the excitation-inhibition balance in prefrontal cortex neurons during development. H. KARST*; L. I. VAN MOURIK; M. JOELS. *Univ. Med. Ctr. Utrecht, Univ. Med. Ctr. Groningen.*

4:00 U18 **409.04** Maternal presence/absence during early-life immune challenge: Effects in pups and dams. S. CASTANY*; J. ZAJDEL; A. ZAGER; A. BLOMQVIST; K. SHIONOYA; D. ENGBLOM. *Univ. of Linkoping, Univ. of Linkoping.*

1:00 U19 **409.05** Prenatal maternal stress, non-invasive fetal biomarkers and infant neurocognitive development: A prospective cohort study. M. C. ANTONELLI*; C. ZELGERT; S. VAKNINE; M. MOLINET; R. SHARMA; P. ZIMMERMANN; A. MÜLLER; G. SCHMIDT; B. HALLER; G. BERG; B. FABRE; H. WU; H. SOREQ; M. G. FRASCH; S. M. LOBMAIER. *Inst. de Biologia Celular y Neurociencia "Prof.Dr. E. De Robertis", Dept. of Obstetrics and Gynecology, Tech. Univ. of Munich, Dept. of Biol. Chemistry. The Hebrew Univ. of Jerusalem, Res. Group Complex Diseases, Helmholtz Centrum, Dept. of Cardiology, Tech. Univ. of Munich, Inst. of Med. Informatics, Statistics and Epidemiology, Tech. Univ. of Munich., Facultad de Farmacia y Bioquímica, Univ. de Buenos Aires, Dept. of Mathematics and Dept. of Statistical Science, Duke Univ., Univ. of Washington.*

2:00 U20 **409.06** Neonatal pain has lasting effects on fear, anxiety, and somatosensory function through changes in amygdala CRF signaling. S. M. DAVIS*; J. ZUKE; E. RUSSO; D. PADMANABHAN; M. A. BURMAN. *Univ. of New England, Univ. of New England.*

3:00 U21 **409.07** Developmental-stage dependent behavioural and neurochemical deficits produced by embryonic ethanol exposure in zebrafish: A model for FASD. A. FACCIOL*; C. BAILLEUL; S. NGUYEN; R. T. GERLAI. *Univ. of Toronto Mississauga, Univ. of Toronto Mississauga, Univ. of Toronto Mississauga.*

4:00 U22 **409.08** Maternal separation and monosodium glutamate intake don't affect spatial memory, but increase weight gain and water intake in male Wistar rats. C. SIERRA; Z. DUENAS*. *Univ. Nacional, Univ. Nacional De Colombia.*

1:00 U23 **409.09** ▲ Effects of social subordination and consumption of an obesogenic diet on total brain size and structural development of cortico-limbic regions: A longitudinal study in infant and juvenile macaques. M. H. KYLE*; A. KALDAS; M. PINCUS; J. GODFREY; Z. KOVACS-BALINT; E. L. MORIN; D. DE LEON; L. LI; B. R. HOWELL; M. A. STYNER; C. PAYNE; K. ETHUN; M. E. WILSON; M. SANCHEZ. *Emory Univ., Yerkes Natl. Primate Res. Ctr., Inst. of Child Develop., Univ. of North Carolina At Chapel Hill.*

2:00 U24 **409.10** Disrupted development: An investigation of post-natal restricted resources on neurobiological, behavioral and morphological outcomes. M. H. KENT*; K. LAMBERT; G. BOWEN; S. DESINOR; D. VAVRA; K. SCIANDRA; K. GILLENWATER; C. GLORY; E. MEISEL; R. OLIVARES-NAVARRETE; J. PIETZER. *Univ. of Richmond, Virginia Commonwealth Univ.*

3:00 U25 **409.11** Effects of neonatal procedural pain and reduced maternal care on brain development and cell proliferation in male and female rat pups. B. M. TIMMERMAN; S. M. MOONEY-LEBER; S. BRUMMELTE*. *Wayne State Univ., Penn State Univ.*

4:00 U26 **409.12** Effect of enriched early environments and lipopolysaccharide treatment on retrotransposon expression in stress-sensitive brain regions. A. A. AIKEN*; A. C. KENTNER; R. G. HUNTER. *Univ. of Massachusetts Boston, Massachusetts Col. of Pharm. & Hlth. Sci.*

1:00 U27 **409.13** Maternal-fetal reactions to acute emotional stress in prenatal depressed mothers: Correlations with fetal biomagnetometry measures. P. CHANDRA*; A. OYETUNJI; K. GUSTAFSON. *Univ. of Missouri Kansas City, Truman Med. Ctr., Univ. of Kansas Med. Ctr.*

- • Indicated a real or perceived conflict of interest, see page 150 for details.
- ▲ Indicates a high school or undergraduate student presenter.
- * Indicates abstract's submitting author

2:00 U28 **409.14** The impact of early developmental stress on anxiety, cognition, and inflammation in adulthood. C. HAGEN*; J. FIGG; K. BRICE; J. PETERMAN; G. BOEHM; M. CHUMLEY. *Texas Christian Univ.*

3:00 U29 **409.15** The effects of early life adversity on instrumental reward learning. M. GALLO*; D. OFRAY; D. SHLEIFER; G. MANZANO-NIEVES; C. LOPEZ; E. HRABARCHUK; K. G. BATH. *Brown Univ., Brown Univ.*

4:00 U30 **409.16** Type of early life adversity confers differential risk for altered timing of development. C. DEMAESTRI*; M. CRITZ; T. PAN; K. BATH. *Brown Univ.*

1:00 U31 **409.17** Early life adversity increases addiction-like behavior for opioid drugs. S. C. LEVIS*; J. L. BOLTON; B. S. BENTZLEY; C. R. PERRONE; T. Z. BARAM; S. V. MAHLER. *UC Irvine, UC Irvine, Stanford Univ. Med. Ctr.*

2:00 U32 **409.18** Exploring mild stress to induce stress inoculation in early life prairie voles. O. AKINBO*; A. J. GRIPPO; L. MATUSZEWICH. *Dept. of Psychology Northern Illinois Univ., Northern Illinois Univ. Dept. of Psychology, Northern Illinois Univ.*

3:00 U33 **409.19** Modulating behavioral effects of early life adversity by targeting prefrontal cortex NMDA NR2A subunits in adolescent rats: Impact on infant-caretaker communication, cognition, and anxiety. L. E. GRANATA*; J. A. HONEYCUTT; H. C. BRENHOUSE. *Northeastern Univ.*

4:00 U34 **409.20** ● Microglia activation and depressive-like behavior in adult male and female rats exposed to early-life and adolescence stress. K. SANTOS-AVILES*; L. SAMBOLIN-ESCOBALES; M. COLON; A. HERNANDEZ; J. T. PORTER. *Ponce Hlth. Sci. Univ., Ponce Hlth. Sci. Univ., Ponce Hlth. Sci. Univ., Ponce Sch. Med.*

1:00 U35 **409.21** The impact of a Western-pattern diet on the interaction of prenatal stress, maternal behavior, and offspring phenotype. N. CLAUSS*; J. BYRD-CRAVEN; P. CAMPBELL. *Oklahoma State Univ., Univ. of California-Riverside.*

2:00 U36 **409.22** ▲ Investigation of serotonin-related gene expression and socioemotional behaviors as a result of early-life exposure to clomipramine in Sprague-Dawley mother rats. B. N. REGULA*; C. M. RAGAN; N. SHAH. *Purdue Univ. Northwest, Purdue Univ. Northwest, St. George's Univ.*

3:00 U37 **409.23** Effects of early life stress on social group dynamics in mice. G. BATISTA*; N. W. HODGSON; J. SCHNEIDER; S. EL-SHAWA; J. LEVINE; T. K. HENSCH. *Harvard Univ., Boston Children's Hosp., Univ. of Toronto Mississauga.*

4:00 U38 **409.24** Light at night during development increases susceptibility to an immune challenge in adulthood in female mice. R. CHEN*; L. K. FONKEN. *Univ. of Texas at Austin.*

1:00 U39 **409.25** Mast cells as potential mediators of early life adversity effects on adult physiology and behavior. N. DUQUE-WILCKENS*; N. MARADIAGA; F. STOELTING; E. MACKEY; E. SARNO; K. THELEN; A. MCCAULIFF; A. ROBISON; A. MOESER. *Michigan State Univ., Michigan State Univ., Michigan State Univ., Michigan State Univ.*

2:00 U40 **409.26** Methylene blue rescues mitochondrial respiration impairments in developing iron-deficient hippocampal neurons. T. W. BASTIAN*; L. M. LANIER; M. K. GEORGIEFF. *Univ. of Minnesota.*

3:00 V1 **409.27** Effect of methylphenidate on cell proliferation and memory in adult female rats exposed to chronic stress during the gestation stage. S. CASTELLANOS DE ALBA; A. FREGOSO-GONZÁLEZ; A. GARCÍA-ZAMUDIO; T. MORALES-SALCEDO; A. AGUILAR-DELGADILLO; J. GARCÍA-ESTRADA; D. FERNANDEZ-QUEZADA; F. JAUREGUI-HUERTA; S. LUQUIN; Y. RUVALCABA-DELGADILLO*. *Univ. de Guadalajara.*

4:00 V2 **409.28** Maternal insulin resistance transgenerationally impairs memory via germline histone modifications via germline histone modifications. S. FUSCO*; M. SPINELLI; S. COCCO; C. RIPOLI; A. MASTRODONATO; G. LIVRIZZI; F. NATALE; M. RINAUDO; C. GRASSI. *Univ. Cattolica Del Sacro Cuore.*

1:00 V3 **409.29** Chaos analysis of compound action potentials evoked in sural nerves from rats reared without littermates. E. E. RODRIGUEZ-TORRES*; V. MARTÍNEZ-ALVAREZ; M. A. LANDA-JIMENEZ; P. GONZALEZ-GASPAR; J. VIVEROS-ROGEL; B. A. ITZA-ORTIZ; F. MENENDEZ-CONDE-LARA; M. TETLALMATZI-MONTIEL; R. JIMENEZ-MUNGUIA; I. JIMENEZ-ESTRADA. *Autonomous Univ. of Hidalgo (UAEH), IPN Ctr. Invst & Adv Studies, Univ. Veracruzana, IPN Ctr. Invst & Adv Studies.*

POSTER

410. Circadian Aspects of Sleep and Gap Junctions

Theme F – Integrative Physiology and Behavior

Mon. 1:00 PM – *McCormick Place, Hall A*

1:00 V4 **410.01** A cross-talk between the molecular clock and the metabolic/redox oscillator operates in glioblastoma cancer cells displaying a differential temporal susceptibility to chemotherapy. M. E. GUIDO*; P. M. WAGNER. *Ciquibic Conicet Univ. Nacional de Cordoba.*

2:00 V5 **410.02** A circadian output center controlling feeding:fasting rhythms in *Drosophila.* D. J. CAVANAUGH*; A. P. DREYER; M. M. MARTIN; C. V. FULGHAM; D. A. JABR; J. BESHEL. *Loyola Univ. Chicago.*

3:00 V6 **410.03** The poly(C) motif in the proximal promoter region of the D-box binding protein (DBP) drives its high-amplitude oscillation. S. KIM*; P. KWON; K. KIM; T. ROH; H. KIM; H. YI; H. KU. *POSTECH, Vet Drugs and Biologics Division, Animal and Plant Quarantine Agency.*

4:00 V7 **410.04** The circadian gene Bmal1 in the striatum regulates alcohol intake and preference in male and female mice. N. DE ZAVALIA*; P. SOLIS; G. PARENT; S. FERRARO; K. SHÖTTNER; S. AMIR. *Concordia Univ.*

1:00 V8 **410.05** Genetic dissection of the circadian rhythm of body temperature. I. LIAO*; M. IZUMO; B. JEONG; J. S. TAKAHASHI. *Univ. of Texas Southwestern Med. Ctr., Univ. of Texas Southwestern Med. Center, Howard Hughes Med. Inst.*

2:00 V9 **410.06** MYBBP1a - ZFHX3 complex acts a repressor on core circadian gene expression. M. YIN*; S. MILITI; H. HILTON; G. BANKS; C. ESAPA; P. NOLAN. *Medicail Res. Council Harwell Inst. UK, Ludwig Inst. for Cancer Res.*

3:00 V10 **410.07** Central circadian clock regulates cognitive function and insulin sensitivity. X. LI*; W. ZHOU; Y. HE; T. YANG; Y. GONG; G. DING; S. LEE; J. QIAN; Y. XU; Z. SUN. *Baylor Col. of Med., Baylor Col. of Med.*

• Indicated a real or perceived conflict of interest, see page 150 for details.
▲ Indicates a high school or undergraduate student presenter.
* Indicates abstract's submitting author

4:00 V11 **410.08** Generation and validation of a conditional reporter mouse line for studying circadian rhythms. C. B. SMITH*; V. VAN DER VINNE; A. C. STOWIE; M. E. HARRINGTON; L. GARBUTT; A. J. DAVIDSON; R. DALLMANN; D. R. WEAVER. *Univ. of Massachusetts Med. Sch., Univ. of Massachusetts Med. Sch., Morehouse Sch. of Med., Smith Col., Univ. of Warwick.*

1:00 V12 **410.09** Clock gene per1 and per2 is involved in the mechanism underlying the rapid antidepressant action of adenosine A1 receptor agonist. S. LI*. *Natl. Inst. On Drug Dependence,Peking Univ.*

2:00 V13 **410.10** Molecular and behavioural consequences of circadian clock gene deletion within the mouse striatum. P. SOLIS*; K. SCHÖTTNER; M. A. BUTTON; N. DE ZAVALIA; S. AMIR. *Concordia Univ., Concordia Univ.*

3:00 V14 **410.11** A neuronal circuit that modulates rhythmic activity under warm temperature in the fruit fly, *Drosophila melanogaster*. A. IYENGAR*; V. SHEEBA. *Jawaharlal Nehru Ctr. For Advanced Scientific Res.*

4:00 V15 **410.12** The role of SOX2 in circadian timekeeping. A. H. CHENG*; P. BOUCHARD-CANNON; S. W. FUNG; S. HEGAZI; C. LOWDEN; R. W. NESS; H. M. CHENG. *Univ. of Toronto, Univ. of Toronto Mississauga, Univ. of Toronto.*

1:00 V16 **410.13** ▲ Measuring circadian bioluminescence from mice lacking a functional central clock. B. MARTIN-BURGOS*; P. MOLYNEUX; V. VAN DER VINNE; T. LEISE; D. R. WEAVER; M. E. HARRINGTON. *Smith Col., Univ. of Oxford, Amherst Col., UMass Med. Sch.*

2:00 V17 **410.14** Time restricted feeding rescues hippocampal disruption after chronic high fat diet feeding. J. DAVIS*; S. YATES; J. POLLOCK; D. POLLOCK; M. YOUNG; S. BAILEY; K. L. GAMBLE. *Univ. of Alabama At Birmingham, Univ. of Alabama at Birmingham, UAB Med. Ctr.*

3:00 V18 **410.15** A single factor dominates the behavior of rhythmic genes in mouse organs. Y. CHENG; L. ZHANG; G. WANG*. *CAS-MPG Partner Inst. for Computat. Biol., Huazhong Univ. of Sci. and Technol.*

4:00 V19 **410.16** Circadian variation of neurometabolic activity in the prefrontal cortex: Effects of light and aging. N. K. WALLACE*; I. N. KARATSOREOS; M. SAVENKOVA; F. POLLARD. *Washington State Univ.*

1:00 V20 **410.17** The role of innexin genes in Lymnaea stagnalis. B. MERSMAN*; S. JOLLY; Z. LIN; F. XU. *St. Louis Univ.*

2:00 V21 **410.18** Examination of oligodendrocyte connexin32 interactions with wild-type connexin47 and PMLD/SPG44 connexin47 mutants. G. DUNGAN; M. FREIDIN*; C. K. ABRAMS. *Univ. of Illinois at Chicago.*

3:00 V22 **410.19** Electrical coupling and NMDA dependent strengthening of electrical synapses in the mouse inferior olive depend on CaMKIIa. H. E. SPEED*; Z. ZHU; A. SHARDARBEKOVA; S. COULTRAP; K. BAYER; J. WELSH. *Seattle Children's Res. Inst., Univ. of Colorado - Denver, Univ. of Washington.*

4:00 V23 **410.20** Neurons and satellite glial cells of the superior cervical ganglia express Connexin 36. E. M. PEREZ-ARMENDARIZ*; L. CRUZ-MIGUEL; B. HERNÁNDEZ-TELLEZ; A. CASTELL-RODRÍGUEZ; E. RIOS-MUÑIZ. *Univ. Nacional Autónoma De México, Univ. Nacional Autónoma de México.*

1:00 V24 **410.21** Loss of synchronous activity across gap junctions results in a phase-dependent change in coupling conductance magnitude. D. R. KICK*; D. J. SCHULZ. *Univ. of Missouri, Univ. of Missouri-Columbia.*

POSTER

411. Fear and Aversive Learning and Memory: Circuits I

Theme G – Motivation and Emotion

Mon. 1:00 PM – *McCormick Place, Hall A*

1:00 V25 **411.01** A critical role for neocortical processing of threat memory. T. DALMAY*; E. ABS; R. B. POORTHUIS; S. ONASCH; Y. R. LOZANO; P. TOVOTE; J. GJORGJIEVA; J. J. LETZKUS. *Max Planck Inst. For Brain Res., Univ. Med. Ctr. Utrecht, Univ. Hosp. Würzburg, Tech. Univ. of Munich.*

2:00 V26 **411.02** Cell assemblies representing contextual emotional memory in the basolateral amygdala. K. WATANABE; G. GIRARDEAU; G. BUZSAKI; J. P. JOHANSEN; T. FUKAI*. *Ascent Robotics, Inc, Inst. du Fer-à-Moulin, Inserm/Sorbonne Univ., New York University, Sch. of Med., RIKEN Ctr. for Brain Sci., Okinawa Inst. of Sci. and Technol.*

3:00 V27 **411.03** TBI increases gamma in amygdala-prefrontal cortex circuitry and impairs extinction of fear memories. M. D. SERGISON*; C. D. ADAM; C. COTTONE; N. MAHESHWARI; A. V. ULYANOVA; H. I. CHEN; V. E. JOHNSON; J. A. WOLF. *Univ. of Pennsylvania, Corporal Michael J. Crescenz VA Med. Ctr.*

1:00 V28 **411.04** A projection from ventral hippocampus to basolateral amygdala is involved in the destabilization of remote fear memory. Y. HAN*; J. SHI; L. LU. *Peking Univ., Natl. Inst. On Drug Dependence of Peking Un, Inst. Mental Health,Peking Univ. Sixth Hospita.*

2:00 V29 **411.05** Fear induced synaptic reorganization in the BLA-mPFC connectivity. J. SONG*; J. KIM. *KIST Korea Inst. of Sci. & Tech.*

3:00 V30 **411.06** Functional disconnection between ventral hippocampus and prelimbic cortex impairs the acquisition of contextual fear conditioning with temporal discontinuity. T. B. DOS SANTOS*; A. E. WALLAU; J. C. K. SOARES; M. M. DE OLIVEIRA. *Univ. Federal de São Paulo.*

4:00 V31 **411.07** Distinct roles of the anterior and posterior retrosplenial cortices in encoding, but not retrieval, of trace fear memory. S. TRASK*; S. E. PULLINS; F. J. HELMSTETTER. *The Univ. of Wisconsin - Milwaukee, Univ. of Wisconsin - Milwaukee, Univ. of Wisconsin Milwaukee Dept. of Psychology.*

1:00 V32 **411.08** Ventral hippocampus dynamically regulates encoding of shock-related information in the basolateral amygdala during trace fear conditioning. M. R. HERBST*; R. C. TWINING; M. R. GILMARTIN. *Marquette Univ., Marquette Univ.*

2:00 V33 **411.09** ▲ Prefrontal neuronal encoding of threat-predictive cues across the estrous cycle. M. LAVIOLA; M. HERBST; R. C. TWINING; M. R. GILMARTIN*. *Marquette Univ.*

3:00 V34 **411.10** Silencing afferent input to prefrontal cortex during trace fear conditioning. R. C. TWINING*; A. J. KIRRY; K. LEPAK; M. R. GILMARTIN. *Marquette Univ.*

• Indicated a real or perceived conflict of interest, see page 150 for details.
▲ Indicates a high school or undergraduate student presenter.
* Indicates abstract's submitting author

4:00 V35 **411.11** ▲ Atlas-based mapping of Fos-immunoreactive neurons in the medial prefrontal cortex and ventral hippocampus in association with context fear in the juvenile and adult male rat. A. PINEDA SANCHEZ*; A. ENRIQUEZ; K. NEGISHI; A. J. SANTARELLI; A. M. KHAN; A. M. POULOS. *Univ. of Texas at El Paso, State Univ. of New York, Univ. At Albany.*

1:00 V36 **411.12** Inactivation of ventral hippocampus and medial prefrontal cortex in juvenile and adult rat during context fear retrieval. A. J. SANTARELLI; L. M. COLON; A. M. POULOS*. *State Univ. of New York, Univ. at Albany, Univ. at Albany State Univ. of New York, Univ. at Albany, SUNY.*

2:00 V37 **411.13** Neuronal tract tracing of developmental fear-related neural circuitry in male and female rats. N. ODYNOCKI*; L. M. COLON; A. M. POULOS. *Univ. at Albany State Univ. of New York.*

3:00 V38 **411.14** The bed nucleus of the stria terminalis regulates context-dependent flight behavior in rats. M. TOTTY*; N. WARREN; K. R. RAMANATHAN; R. RESSLER; S. MAREN. *Texas A&M Univ., Texas A&M Univ.*

4:00 V39 **411.15** Overexpression of microRNA-33 in the bed nucleus of the stria terminalis blocks state-dependent learning of contextual fear in rats. R. S. BLAIR*; G. M. ACCA; S. MAREN; N. NAGAYA. *Texas A&M Univ., Texas A&M Univ.*

1:00 V40 **411.16** Nucleus reuniens influences medial prefrontal cortex and hippocampal neuronal activity during retrieval of extinguished fear memories. K. R. RAMANATHAN*; J. JIN; K. DEISSEROTH; S. MAREN. *Texas A&M Univ., Stanford Univ. Dept. of Psychology.*

2:00 V41 **411.17** Locus coeruleus norepinephrine drives stress-induced increases in basolateral amygdala firing and impairs extinction learning. O. W. MILES*; T. F. GIUSTINO; K. R. RAMANATHAN; M. S. TOTTY; S. MAREN. *Texas A&M Univ., Texas A&M Univ.*

3:00 V42 **411.18** Dorsal hippocampus mediates covert retrieval of a contextual fear memory. R. RESSLER*; T. D. GOODE; C. EVEMY; A. MARTINEZ; S. KIM; S. MAREN. *Texas A&M Univ., Inst. for Neurosci., Massachusetts Gen. Hosp.*

4:00 V43 **411.19** Signaled active avoidance performance is context-dependent. C. R. OLEKSIAK*; J. M. MOSCARELLO; S. MAREN. *Texas A&M Univ.*

1:00 V44 **411.20** The role of hippocampus to amygdala projection in two way active avoidance. K. SUNG*; J. YU; J. PYO; J. KIM. *POSTECH, POSTECH.*

2:00 V45 **411.21** ▲ Reduced renewal of conditioned suppression following lesions of the dorsal hippocampus. A. TAVAKKOLI*; D. I. FOURNIER; D. J. BUCCI; T. P. TODD. *Dartmouth Col.*

POSTER

412. Fear Conditioning, Extinction, and Aggression

Theme G – Motivation and Emotion

Mon. 1:00 PM – *McCormick Place, Hall A*

1:00 V46 **412.01** MDMA and memory: A dose-effect analysis on Pavlovian fear conditioning. M. M. PANTONI*; S. G. ANAGNOSTARAS. *UC San Diego.*

2:00 W1 **412.02** Dopamine and the hunger hormone ghrelin: Novel targets to rescue impaired fear extinction? E. M. FRITZ*; A. PIERRE; M. KHARITONOVA; A. SAH; O. BUKALO; D. DE BUNDEL; A. HOLMES; N. SINGEWALD. *Univ. of Innsbruck, Vrije Univ. Brussel, NIH/NIAAA.*

3:00 W2 **412.03** Role of μ-opioid and CB1 receptors of the dorsal periaqueductal gray matter in the modulation of aversive and antinociceptive responses induced by fear. J. M. ZANOVELI*; M. M. GODOI; J. M. CUNHA. *Federal Univ. of Parana.*

4:00 W3 **412.04** Nucleus reuniens in Pavlovian trace fear conditioning. Y. LIN*; C. CHANG. *Inst. of Systems Neuroscience, NTHU.*

1:00 W4 **412.05** Dopaminergic strategies to rescue deficient fear extinction. S. B. SARTORI; T. M. V. KEIL; K. K. KUMMER; M. KRESS; K. EBNER; N. SINGEWALD*. *Dpt. Pharm. & Tox., Inst. Pharmacy, Univ. Innsbruck, Innsbruck Med. Univ., Med. Univ. Innsbruck.*

2:00 W5 **412.06** β-arrestin-dependent opioid signaling positively contributes to reduced conditioned fear and anxiety-like behavior. M. KO*; T. CHIANG; A. A. MUKADAM; G. E. MULIA; J. A. CHESTER; R. M. VAN RIJN. *Purdue Univ., Purdue Univ.*

3:00 W6 **412.07** Olfactory fear conditioning enhanced neuroplasticity and neurogenesis in the hippocampus and the olfactory bulb of adults rat. M. HAKIM; A. BATTLE; L. R. JOHNSON; F. CHEHREHASA*. *Queensland Univ. of Technology, Sch. of Biomed. Sci., Inst. of Hlth. and Biomed. Innovation, Queensland Univ. of Technol., Translational Res. Institute, QUT, Univ. of Tasmania, Sch. of Med.*

4:00 W7 **412.08** Role of the gut microbiome in mouse territorial aggression. C. KWIATKOWSKI*; S. KASZUBINSKI; C. WAELCHLI; K. MOON; A. L. EAGLE; C. MANNING; A. MOESER; M. E. BENBOW; A. ZEOLI; A. ROBISON. *Michigan State Univ., Michigan State Univ., Michigan State Univ., Michigan State Univ., Michigan State Univ., Michigan State Univ.*

1:00 W8 **412.09** Cerebello-thalamo-prefrontal control of fear memories. I. A. GEORGESCU*; J. L. FRONTERA; H. BABA AÏSSA; C. MAILHES-HAMON; C. LENA; D. POPA. *Inst. de Biologie de l'Ecole Normale Superieure.*

2:00 W9 **412.10** ● The endocannabinoid system as a predictor of fear extinction learning - An fMRI study. J. SPOHRS*; M. ULRICH; L. BINDILA; P. PLENER; G. GROEN; B. ABLER. *Ulm Univ., Ulm Univ., Mainz Univ.*

3:00 W10 **412.11** 5-HT2A and cfos expression within the orbitofrontal cortex of isolation reared aggressive mice . A. AGURTO*; P. R. MOYA. *Univ. De Valparaíso, Univ. de Valparaiso.*

POSTER

413. Depression in Patient Subpopulations

Theme G – Motivation and Emotion

Mon. 1:00 PM – *McCormick Place, Hall A*

1:00 W11 **413.01** A convolutional neural network based deep learning model to predict depressive patients with suicide attempts using brain structural imaging. F. WONG*; V. C. CHEN; Y. TSAI; J. WENG. *Chang Gung Univ., Taipei Med. Univ., Chang Gung Univ., Chang Gung Mem. Hosp., Chang Gung Mem. Hosp.*

● Indicated a real or perceived conflict of interest, see page 150 for details.
▲ Indicates a high school or undergraduate student presenter.
* Indicates abstract's submitting author

2:00 W12 **413.02** ▲ Risk factors for major depressive disorder in general population: A systematic review and meta-analysis. D. LIU*; G. LI; L. LI; Y. LIU. *Jining Med. Univ., Jining Taibaihu New District Construction Bureau, Jining Med. Univ.*

3:00 W13 **413.03** ▲ Predictive factors for major depressive disorder in the elder population: A systematic review and meta-analysis. G. LI*; D. LIU; L. LI; Y. LI; Y. WU; Y. LIU. *Jining Med. Univ., Jining Taibaihu New District Construction Bureau.*

4:00 W14 **413.04** ● ▲ Mapping brain structural abnormality in depressed patients with suicide ideation using GQI. M. CHEOK*; V. CHEN; Y. TSAI; J. WENG. *Chang Gung Univ., Chang Gung Univ., Chang Gung Mem. Hosp., Chang Gung Mem. Hosp., Chang Gung Univ.*

1:00 W15 **413.05** A prospective cohort study investigating factors associated with depression in Chinese training residents. F. SHEN*; Z. LIU; Y. ZHOU; W. LI. *Bio-X Institute, Shanghai Jiao Tong Univ., Bio-X Institutes, Shanghai Jiao Tong Univ., Bio-X Institutes,Shanghai Jiao Tong Univ., Shanghai Jiao Tong Univ.*

2:00 W16 **413.06** Mindfulness intervention in autism increases middle cingulate cortex activity during self-reflection which predicts depression alleviation. B. A. PAGNI*; M. WALSH; E. FOLDES; A. SEBREN; M. DIXON; L. BAXTER; C. RIECKEN; C. HAYNES; A. MACOMBER; A. CLARK; C. WEBB; M. CATCHINGS; J. ALVAR; B. B. BRADEN. *Arizona State Univ., Barrow Neurolog. Inst., Arizona State Univ. - Tempe Campus.*

1:00 DP10/W17 **413.07** (Dynamic Poster) Changes in brain activation to angry faces in adolescent participants with depression symptoms. A. ABDULSADYKOVA; A. L. BOKDE*. *Trinity Col. Dublin.*

4:00 W18 **413.08** ▲ Stimulus valence contextually modulates network profiles of the hippocampus and dlPFC in episodic memory: Assessing borderline personality disorders with co-morbid depression. T. J. ATTISHA*; E. L. KALLABAT; T. D. MERAM; P. H. SOLOFF; A. Z. CHOWDURY; V. A. DIWADKAR. *Wayne State Univ. Sch. of Med., Univ. of Pittsburgh Sch. of Med.*

1:00 DP11/W19 **413.09** (Dynamic Poster) Correlates of brain network hierarchies with rumination in major depressive disorder. Y. JACOB*; L. S. MORRIS; K. HUANG; M. SCHNEIDER; G. VERMA; J. W. MURROUGH; P. BALCHANDANI. *Icahn Sch. of Med.*

2:00 W20 **413.10** ▲ No anhedonia for music in major depressive disorder. A. POINCOT*; S. SPIVACK; D. TOSSAVAINEN; S. E. MCCLELLAND; G. LENNER; L. CRANMER; P. WALLISCH. *New York Univ.*

3:00 W21 **413.11** Cortical and subcortical deficits observed in individuals with seasonal affective disorder. N. B. RODRIGUES*; W. SWARDFAGER; A. LEVITT; P. GIACOBBE; N. LIPSMAN. *Univ. of Toronto, Univ. of Toronto, Sunnybrook Hlth. Sci. Ctr., Sunnybrook Hlth. Sci. Ctr.*

4:00 W22 **413.12** Elevated glutamate transporter expression in females with depression. B. E. POWERS; M. SODHI*. *Loyola Univ. Chicago, Loyola Univ. Chicago.*

1:00 W23 **413.13** Mutations of enzymes involved in dietary carbohydrate digestion system in Chinese patients with major depressive disorder. N. ZHANG*; J. LI; S. BI; W. KUANG. *West China Hospital, Sichuan Univ., West China Hosp., Johns Hopkins Univ.*

2:00 W24 **413.14** ▲ Intervention to decrease the depression of the elderly people. C. E. HERNÁNDEZ HERNÁNDEZ*; B. A. FLORES FLORES; K. CHÁVEZ RUBIO; A. B. LÓPEZ ESCUDERO; M. LAZCANO ORTÍZ; V. RAMÍREZ GUTIÉRREZ; E. H. CRUZ MERA; R. C. JIMENEZ SANCHEZ; J. ARIAS RICO; K. JUÁREZ CORTES; O. A. JARAMILLO-MORALES. *Univ. Autónoma Del Estado De Hidalgo, Univ. Politécnica de Pachuca, Univ. Autónoma del Estado de Hidalgo.*

3:00 W25 **413.15** A longitudinal fMRI study of reward processing in adolescents with depression. S. M. JACKSON*; P. VIDAL-RIBAS; D. M. NIELSON; G. O'CALLAGHAN; A. STRINGARIS. *Natl. Inst. of Mental Hlth.*

4:00 W26 **413.16** ▲ Affective interference on OFC and dACC brain network profiles in borderline personality disorder: An fMRI study. E. L. KALLABAT*; T. J. ATTISHA; T. D. MERAM; P. H. SOLOFF; A. Z. CHOWDURY; V. A. DIWADKAR. *Wayne State Univ. Sch. of Med., Univ. of Pittsburgh Sch. of Med.*

1:00 W27 **413.17** Inflammation moderates changes in resting state connectivity following SSRI treatment in geriatric depression. D. SEOK*; E. LUNING-PRAK; I. ASELCIOGLU; G. GREEN; Y. SHELINE. *Univ. of Pennsylvania.*

2:00 W28 **413.18** Dimensional characterization of brain volumetry, connectivity and behavior expression in hospitalized patients by affective and anxiety symptoms, their utility to predict clinical outcomes. M. J. USCAMAYTA AYVAR*; J. M. TORANZO; J. ARNEDO; I. ZWIR; S. N. GOSNELL; G. A. DE ERAUSQUIN; R. SALAS. *Univ. Peruana Cayetano Heredia, Univ. De Buenos Aires - Fundación FULTRA, Univ. de Granada, Univ. de Granada, Howard Hughes Med. Inst. - Baylor Col. O, Fundacion de Lucha contra los Trastornos Neurologi, Baylor Col. of Med.*

3:00 W29 **413.19** Risk factors and their relationship with affective disorders in students. Y. GONZALEZ-MARES; J. MORALES-MAVIL; B. BERNAL-MORALES; F. CARDEÑA-RODRIGUEZ; T. CIBRIAN-LLANDERAL*. *Inst. de Neuroetologia, Univ. Veracruzana, Inst. de Neuroetologia-Universidad Veracruzana, Inst. de Neuroetologia-Universidad Veracruzana, Facultad de Psicologia, Univ. Veracruzana.*

4:00 W30 **413.20** Prevalence of mathematical anxiety in university students. S. ZAMORA LUGO*; M. CADENA-BARAJAS; T. CIBRIAN-LLANDERAL. *Inst. de Neuroetologia, Univ. Veracruzana, Facultad de Estadistica e Informatica, Univ. Veracruzana, Inst. de Neuroetologia, Univ. Veracruzana.*

1:00 W31 **413.21** Allostasis and the relationship with anxiety in adolescents: A Bayesian approach. M. A. PEREZ HERNANDEZ*; N. ISMAIL; B. BERNAL-MORALES; M. CADENA-BARAJAS; I. CIBRIÁN-LLANDERAL. *Univ. Veracruzana, Sch. Of Psychology, Univ. of Ottawa., Inst. de Neuroetología, Univ. Veracruzana., Facultad de Estadística e Informática, Univ. Veracruzana., Inst. de Neuroetología, Univ. Veracruzana.*

2:00 W32 **413.22** Psychoaffective evaluation of formal and informal caregivers of patients with chronic diseases. E. ACOSTA-MARI*; A. CABALLERO-VELARDE; E. MONTES-VILLASEÑOR; V. VILLANUEVA-HERNANDEZ; T. CIBRIAN-LLANDERAL. *Univ. Veracruzana, Ctr. Estatal de Cancerología, Inst. Veracruzano de Salud Mental.*

• Indicated a real or perceived conflict of interest, see page 150 for details.
▲ Indicates a high school or undergraduate student presenter.
* Indicates abstract's submitting author

3:00 W33 **413.23** Alterations of the postsynaptic plasticity genes Homer1a and mGluR5 in the dorsolateral prefrontal cortex, amygdala and hippocampus of suicide completers. M. GARCIA-GUTIERREZ*; A. VIUDEZ MARTINEZ; J. MANZANARES. *Inst. De Neurociencias, Univ. Miguel Hernandez-CSIC.*

4:00 W34 **413.24** Cell type specific transcriptomic alterations in the prefrontal cortex of abused suicides. D. M. ALMEIDA*; G. G. CHEN; J. THEROUX; Z. AOUABED; M. DAVOLI; N. MECHAWAR; G. TURECKI. *Douglas Mental Hlth. Univ. Inst.*

POSTER

414. Neural Circuits Underlying Alcohol Dependence

Theme G – Motivation and Emotion

Mon. 1:00 PM – *McCormick Place, Hall A*

1:00 W35 **414.01** Blocking hypocretin receptors in the infralimbic cortex of Wistar rats reduces footshock stress-induced ethanol seeking in EtOH-dependent rats. J. KIM*; R. MARTIN-FARDON. *Scripps Res.*

2:00 W36 **414.02** ▲ Ethanol simultaneously produces rewarding conditioned place preference and aversive conditioned taste aversion in the animal model: A paradoxical effect hypothesis of abused drugs. Y. LIU*; A. C. W. HUANG. *Fo Guang Univ. Dept. of Psychology.*

3:00 W37 **414.03** Effect of positive allosteric modulation of $GABA_B$ receptors on pathological alcohol choice. E. AUGIER*; G. AUGIER; M. HEILIG. *Linköping Univ., Linköping Univ.*

4:00 W38 **414.04** Decreased reward-related brain function to monetary rewards predicts shorter time to substance use disorder occurrence. C. P. BART*; R. NUSSLOCK; T. H. NG; M. K. TITONE; A. L. CARROLL; K. S. F. DAMME; C. B. YOUNG; C. ARMSTRONG; J. M. CHEIN; L. B. ALLOY. *Temple Univ., Northwestern Univ., Standford Univ.*

1:00 W39 **414.05** Characterization of glycine receptor subtypes and ethanol sensitivity in the mesolimbic pathway. A. I. ARAYA MARTÍNEZ*; S. S. GALLEGOS; R. VIVEROS; L. SAN MARTÍN; L. G. AGUAYO; R. J. HARVEY. *Univ. of Concepcion, Univ. de Chile, Univ. of the Sunshine Coast.*

2:00 W40 **414.06** Adolescent alcohol exposure produces sex differences in BNST plasticity following adult stress. T. A. WILLS*; C. KASTEN; E. HOLMGREN; K. CARZOLI. *LSUHSC.*

3:00 W41 **414.07** Eplerenone antagonism of central amygdala mineralocorticoid receptors reduces alcohol self-administration in female rats. V. MAKHIJANI*; J. BESHEER. *Univ. of North Carolina - Chapel Hill, Univ. of North Carolina - Chapel Hill, Univ. of North Carolina - Chapel Hill, Univ. of North Carolina - Chapel Hill.*

4:00 W42 **414.08** Anxiolytic properties of alcohol are elevated in mice with decreased striatal dopamine D2 receptors. M. E. BOCARSLY*; M. BRAVO; V. A. ALVAREZ. *NIH, Natl. Inst. on Alcohol Abuse and Alcoholism.*

1:00 W43 **414.09** ▲ The effect of ethanol exposure on BDNF levels in enriched and socially isolated rats. E. C. BRASE*; T. J. WUKITSCH; J. P. RACK; M. E. CAIN. *Kansas State Univ., Kansas State Univ.*

2:00 W44 **414.10** Differentiated vulnerability and resilience factors influencing control over alcohol desire in social drinkers. C. LARKIN*; R. SINHA; D. SEO. *Yale Univ. Sch. of Med.*

3:00 X1 **414.11** Sex differences in ethanol and CRF effects on central amygdala GABAergic signaling in alcohol-dependent and naive rats. D. KIRSON*; S. KHOM; F. P. VARODAYAN; R. R. PATEL; M. ROBERTO. *The Scripps Res. Inst.*

4:00 X2 **414.12** Serotonin 2A receptor agonist treatment improves circuit and behavioral consequences of alcohol exposure. B. A. KIMMEY*; A. CROICU; N. SHADANI; R. E. WITTENBERG; A. OSTROUMOV; J. A. DANI. *Univ. of Pennsylvania.*

1:00 X3 **414.13** Glucagon-like peptide-1 system is modulated by acute and chronic exposure to alcohol: Findings from human laboratory experiments and a brain postmortem study. B. D. BROWNING*; M. FAROKHNIA; H. SUN; P. SUCHANKOVA KARLSSON; L. FARINELLI; M. LEE; F. AKHLAGHI; L. LEGGIO. *NIH, NIH, NIH, Univ. of Gothenburg, Univ. of Rhode Island, NIH, Brown Univ.*

2:00 X4 **414.14** Effects of TrkB activation by alcohol withdrawal-mediated secretions of BDNF following chronic alcohol exposure. A. J. PAYNE*; J. N. BRUNDAGE; A. L. STOCKARD; S. C. STEFFENSEN. *Brigham Young Univ.*

3:00 X5 **414.15** Mesolimbic circuit function underlying individual alcohol drinking. S. E. MONTGOMERY*; C. MOREL; B. JUAREZ; M. FLANIGAN; E. S. CALIPARI; S. J. RUSSO; E. J. NESTLER; M. HAN. *Icahn Sch. of Med. at Mount Sinai, Univ. of Washington, Vanderbilt Univ. Sch. of Med.*

4:00 X6 **414.16** Uncovering the genetic basis of courtship and naive odor preference in *Drosophila.* R. OLIVER; N. REGER; F. J. VONHOFF*. *Univ. of Maryland Baltimore County, UMBC.*

1:00 X7 **414.17** Prefrontal and orbitofrontal cortex neurons are differentially activated during passive and active alcohol acquisition: Influences of individual preference and chronic exposure. B. KAMINSKA*; M. L. BERKOWITZ-CERASANO; D. E. MOORMAN. *Univ. of Massachusetts.*

2:00 X8 **414.18** Transmembrane AMPA regulatory protein-γ8 (TARP) knockout male mice show blunted operant responding for and reinstatement to alcohol. S. P. FACCIDOMO*; J. L. HOFFMAN; S. TAYLOR; M. KIM; C. W. HODGE. *UNC Chapel Hill, UNC Chapel Hill.*

3:00 X9 **414.19** Molecular and physiological dysregulation of Kv1.1 contribute to alcohol withdrawal induced hyperexcitability within the hippocampus. D. L. DOBBINS*; H. X. EGIDO-BETANCOURT; A. T. GOLDSTEIN; T. SMITH; K. F. RAAB-GRAHAM; D. W. GODWIN. *Wake Forest Sch. of Med., Wake Forest Sch. of Med.*

4:00 X10 **414.20** Dopamine D2 receptor in ethanol induce behavioral sensitization. N. M. DELGADO*; C. M. SIERRA; P. R. SABANDAL; K. A. HAN. *Univ. of Texas At El Paso.*

1:00 X11 **414.21** Voluntary exercise protects against ethanol induced sensitization of kappa opioid receptors in the nucleus accumbens. J. BRUNDAGE*; K. BILLS; J. SANDRES; B. RICHMOND; S. STEFFENSEN. *Brigham Young Univ.*

2:00 X12 **414.22** ▲ Role of extended amygdala in ethanol reward seeking altered by developmental adversities. M. BJORNI*; G. ETEM; N. ROVERO; A. QUAN; H. HENDERSON; M. BELNAP; L. HALLADAY. *Santa Clara Univ.*

• Indicated a real or perceived conflict of interest, see page 150 for details.
▲ Indicates a high school or undergraduate student presenter.
* Indicates abstract's submitting author

3:00 X13 **414.23** Pharmacokinetics of ethanol in male and female Japanese quail. S. E. EATON*; J. E. JAGIELO-MILLER; M. A. PRENDERGAST; C. K. AKINS. *Univ. Kentucky.*

POSTER

415. Neural and Behavioral Mechanisms of Addiction: Cocaine

Theme G – Motivation and Emotion

Mon. 1:00 PM – *McCormick Place, Hall A*

1:00 X14 **415.01** Reinforcing effects of cocaine are modulated by dopamine-independent actions of modafinil: Possible involvement of gap junctions. M. MEREU; T. HIRANITA; C. J. JORDAN; L. E. CHUN; J. P. LOPEZ; M. A. COGGIANO; J. C. QUARTERMAN; G. BI; J. D. KEIGHRON; Z. XI; A. H. NEWMAN; J. L. KATZ; G. TANDA*. *NIDA-IRP.*

2:00 X15 **415.02** The role of dietary and synaptic zinc on cocaine abuse vulnerability. J. L. GOMEZ*; K. WRIGHT; M. MICHAELIDES. *Natl. Inst. on Drug Abuse.*

3:00 X16 **415.03** Minocycline prevents chronic restraint stress-induced cocaine sensitization and morphological changes of microglia within nucleus accumbens core. M. P. AVALOS*; E. A. GOROSTIZA; M. SANCHEZ; A. S. GUZMAN; D. RIGONI; F. A. BOLLATI; L. M. CANCELA. *IFEC-CONICET.*

4:00 X17 **415.04** Enhanced reward motivation and sensitized fear in adult rats exposed to a single trauma during early development. M. M. COBB*; A. N. HOFFMAN; A. GOLD; M. S. FANSELOW; P. J. KENNEDY. *UCLA, Univ. of California Los Angeles.*

1:00 X18 **415.05** Conditioned place preference to cocaine in leptin receptor deficient diabetic (db/db) mice. D. C. AGUIAR*; J. A. S. L. GOMES; P. H. GOBIRA. *Univ. of Minas Gerais- UFMG, Federal Univ. of Uberlandia, Univ. of São Paulo.*

2:00 X19 **415.06** Cocaine vs food choice: Neurobiological findings under a CRR. J. J. CHOW*; J. S. BECKMANN. *Univ. of Kentucky.*

3:00 X20 **415.07** 5-HT_{1B} receptor agonist attenuation of cocaine self-administration persists after a period of relapse. R. GARCIA*; S. SCOTT; T. LE; S. DOYLE; A. ESQUER; J. VALENZUELA; K. M. BLATTNER; B. E. BLASS; J. L. NEISEWANDER. *Arizona State Univ., Temple Univ. Sch. of Pharm.*

4:00 X21 **415.08** The effects of a selective 5-HT_{1B} receptor agonist on cocaine demand before and after abstinence from self-administration in freely cycling female rats. S. N. SCOTT*; G. L. POWELL; A. M. GARCIA; O. I. VILLAREAL; K. A. HEADLEY; J. L. NEISEWANDER. *Arizona State Univ., Arizona State Univ.*

1:00 X22 **415.09** Alpha synuclein critically modulates motivation for rewarding stimuli and shows dynamic changes in subcellular localization within ventral tegmental area axon terminals after systemic cocaine administration. O. TRUBETCKAIA; A. E. LANE; L. QIAN; P. ZHOU; D. A. LANE*. *Weill Cornell Med. Col., Weill Cornell Med.*

2:00 X23 **415.10** Lipid profiles of brain extracellular vesicles of cocaine-treated mice. M. SAITO*; R. LINN; A. HASHIM; H. SERSHEN; B. BARRETO; M. SAITO; E. LEVY. *Nathan S Kline Inst., New York Univ. Langone Hlth.*

3:00 X24 **415.11** Behavioral and electrophysiological evidence for "high risk" cocaine addiction identified in a subset of outbred Long Evans rats. N. J. BEACHER*; A. DAO; M. KARNAM; S. J. LEICHNER; J. KULIK; A. P. PAWLAK; M. O. WEST. *Rutgers Univ., Rutgers Univ. - New Brunswick, Rutgers Univ., Rutgers Univ., Rutgers The State Univ. of New Jersey.*

4:00 X25 **415.12** Plastic changes in central nuclei of the amygdala driven by natural reward and addictive learning. L. D. BIJOCH*; M. PEKALA; J. KLOS; S. MITRA; L. KACZMAREK; A. BEROUN. *Nencki Inst. of Exptl. Biol.*

1:00 X26 **415.13** Retinoic x receptor alpha signaling in the nucleus accumbens contributes to cocaine- and opioid-induced transcriptional and behavioral alterations. A. GODINO*; M. SALERY; R. FUTAMURA; C. J. BROWNE; F. J. MARTINEZ-RIVERA; P. J. HAMILTON; D. M. WALKER; E. J. NESTLER. *Icahn Sch. of Med. at Mount Sinai.*

2:00 X27 **415.14** CREB-mediated activation of Zfp189 in nucleus accumbens drives behavioral responses to psychostimulants, but not opiates. C. D. TEAGUE; C. J. BROWNE; R. FUTAMURA; F. J. MARTINEZ; P. MEWS; A. MINIER-TORIBIO; A. GODINO; Z. S. LORSCH; R. L. NEVE; P. J. HAMILTON*; E. J. NESTLER. *Mount Sinai Sch. of Med., Massachusetts Gen. Hosp., Virginia Commonwealth Univ. Hlth. Syst.*

3:00 X28 **415.15** Adolescent stress results in sex-specific reprogramming of the reward circuitry transcriptome in adulthood. D. M. WALKER*; X. ZHOU; A. M. CUNNINGHAM; A. RAMAKRISHNAN; Y. E. LOH; I. PURUSHOTHAMAN; M. A. DOYLE; H. M. CATES; C. J. PENA; R. C. BAGOT; P. J. KENNEDY; L. SHEN; B. ZHANG; E. J. NESTLER. *Icahn Sch. of Med. at Mount Sinai, Icahn Sch. of Med. at Mount Sinai, Michigan State Univ., Princeton Univ., McGill Univ., Univ. of California Los Angeles.*

4:00 X29 **415.16** Cell type-specific morphological and transcriptional adaptations to cocaine in the nucleus accumbens. M. SALERY*; A. GODINO; M. K. FAUSTIN; R. FUTAMURA; C. J. BROWNE; J. F. FULLARD; P. ROUSSOS; E. J. NESTLER. *Icahn Sch. of Med. at Mount Sinai, Icahn Sch. of Med. at Mount Sinai.*

1:00 X30 **415.17** Cell type-specific transcriptional patterns in nucleus accumbens differentiating cocaine versus morphine exposure: Actions of ∆FosB. C. K. LARDNER*; P. J. HAMILTON; A. RAMAKRISHNAN; H. G. KRONMAN; D. M. WALKER; L. SHEN; E. J. NESTLER. *Icahn Sch. of Med. at Mount Sinai, Virginia Commonwealth Univ. Hlth. Syst.*

2:00 X31 **415.18** Proteomic profiling of nucleus accumbens synaptosomes following short- and long-term withdrawal from cocaine self-administration in mice. Y. YIM*; C. J. BROWNE; J. WANG; R. S. WILSON; A. C. NAIRN; Y. DONG; E. J. NESTLER. *Icahn Sch. of Med. at Mount Sinai, Univ. of Pittsburgh, Yale/NIDA Neuroproteomics Ctr., Yale Sch. of Medicine, Connecticut Mental Hlth. Ctr.*

3:00 X32 **415.19** E2F3a transcription factor regulates cocaine- and morphine-related behaviors in males and females in a cell-specific manner. F. J. MARTINEZ-RIVERA*; A. TORRES-BERRÍO; P. J. HAMILTON; A. M. MINIER-TORIBIO; C. J. BROWNE; Y. YIM; R. FUTAMURA; R. L. NEVE; E. J. NESTLER. *Icahn Sch. of Med. at Mount Sinai, Virginia Commonwealth Univ. Hlth. Syst., Massachusetts Gen. Hosp.*

• Indicated a real or perceived conflict of interest, see page 150 for details.
▲ Indicates a high school or undergraduate student presenter.
* Indicates abstract's submitting author

4:00 X33 **415.20** Microbiome depletion disrupts transcriptional homeostasis and reduces persistence of cocaine sensitization. K. R. MECKEL*; R. S. HOFFORD; J. B. HANKS; N. L. MERVOSH; P. ROUSSOS; D. D. KIRALY. *Icahn Sch. of Med. at Mount Sinai, Icahn Sch. of Med. at Mount Sinai, Icahn Sch. of Med. at Mount Sinai.*

1:00 X34 **415.21** Granulocyte-colony stimulating factor during abstinence from cocaine self-administration alters expression of glutamatergic synaptic proteins in nucleus accumbens. R. S. HOFFORD*; T. EUSTON; R. WILSON; T. T. LAM; E. S. CALIPARI; D. D. KIRALY. *Icahn Sch. of Med. at Mount Sinai, Yale/NIDA Neuroproteomics Ctr., Vanderbilt Univ. Sch. of Med., Icahn Sch. of Med. at Mount Sinai.*

2:00 X35 **415.22** ▲ Investigating the role of granulocyte colony stimulating factor as a regulator of the striatal proteome. T. J. EUSTON*; R. S. HOFFORD; R. WILSON; T. LAM; D. D. KIRALY. *Icahn Sch. of Med., Yale Univ., Icahn Sch. of Med. at Mount Sinai.*

3:00 X36 **415.23** High risk of cocaine addiction in adolescents: Differential contribution of diverse cortical areas. D. HUANG; S. IM; J. M. CIALDELLA; A. V. SALINAS; Y. Y. MA*. *Indiana Univ. Sch. of Med., Binghamton Univ.*

POSTER

416. Factors Influencing Cocaine Use

Theme G – Motivation and Emotion

Mon. 1:00 PM – *McCormick Place, Hall A*

1:00 X37 **416.01** ● Sex differences in effects of voluntary exercise during extinction of cocaine-seeking behavior. R. J. MORALES SILVA*; U. GELPI-DOMÍNGUEZ; D. NIEVEZ-TORRES; A. ECHEVARRIA- RIVERA; M. T. SEPULVEDA-ORENGO. *Ponce Hlth. Sci. Univ., Ponce Hlth. Sci. Univ., Univ. of Puerto Rico, Ponce Hlth. Sci. Univ.*

2:00 X38 **416.02** Functional sex differences in glutamate trafficking and their potential role in cocaine addiction-like behavior. M. C. KNOUSE*; A. U. DEUTSCHMANN; L. A. BRIAND. *Temple Univ., Temple Univ.*

3:00 X39 **416.03** A sex-specific role for PICK1 in the prefrontal cortex during cocaine seeking. M. M. WICKENS*; J. M. KIRKLAND; L. A. BRIAND. *Temple Univ.*

4:00 X40 **416.04** Investigating neuroadaptations underlying sex differences in cue-induced cocaine craving. C. M. CORBETT; Y. SHIFMAN; J. A. LOWETH*. *Rowan Univ. Sch. of Osteo. Med.*

1:00 X41 **416.05** GluA1 expression in differentially reared rats following cocaine self-administration. D. KUIPERS; A. BURTON; A. M. DICLEMENTI; F. PIGNONE; A. SCHWARZ; A. ZIMBELMAN; L. WITTENKELLER; M. T. STEFANIK; M. J. GILL*. *North Central Col.*

2:00 X42 **416.06** ● Age-related alterations in morphine and cocaine seeking behavior as measured by conditioned place preference. R. A. SHETTY*; R. CHAUBEY; R. BUI; M. J. FORSTER. *Univ. Of North Texas Hlth. Sci. Ctr., Emory Univ.*

3:00 X43 **416.07** Adolescent social isolation stress alters synaptic plasticity in the nucleus accumbens: Role of neuroimmune signaling. A. MCGRATH*; L. A. BRIAND. *Temple Univ., Temple Univ.*

4:00 X44 **416.08** Role of endocannabinoid signaling in cocaine-taking and cocaine-seeking behavior following chronic electric footshock stress-induced escalation of cocaine self-administration in rats. J. R. MCREYNOLDS*; J. C. MATHY; R. SCHAPS; K. A. SHANNON; C. P. WOLF; D. M. STARCK; C. J. HILLARD; J. R. MANTSCH. *Marquette Univ., Med. Col. Wisconsin, Marquette Univ.*

1:00 X45 **416.09** Goal-directed and habitual cocaine seeking: Further assessment of noncontingent cocaine as a method to cause satiety and outcome devaluation. B. JONES*; H. SPENCER; T. H. KIM; R. J. SMITH. *Texas A&M Univ.*

2:00 X46 **416.10** Can agony fuel ecstasy? Cocaine and opioid patients carrying a genetic variant linked to over-response of the stress (cortisol) system demonstrate heightened limbic brain response to appetitive drug cues. A. R. CHILDRESS*; K. JAGANNATHAN; R. CRIST, III; P. REGIER; G. ARAUCO-SHAPIRO; S. DARNLEY; M. TAYLOR; J. J. SUH; Z. MONGE; T. FRANKLIN; R. WETHERILL; K. YOUNG; M. GAWRYSIAK; R. SZUCS-REED; K. KAMPMAN; C. P. OBRIEN; D. D. LANGLEBEN. *Univ. PENN Perelman Sch. Med.*

3:00 Y1 **416.11** Rats using habitual, dorsolateral striatum-dopamine-dependent response strategies to self-administer cocaine are resistant to cue extinction compared to goal-directed rats. B. N. BENDER*; M. M. TORREGROSSA. *Univ. of Pittsburgh.*

POSTER

417. Opioids: Mechanisms Underlying Seeking Behavior

Theme G – Motivation and Emotion

Mon. 1:00 PM – *McCormick Place, Hall A*

1:00 Y2 **417.01** Distinctive roles of hippocampal ten-eleven translocation methylcytosine dioxygenase 1 (TET1) and TET3 in the acquisition of morphine self-administration in rats. J. ZHANG*; F. JIANG; W. ZHENG; N. SUI. *Inst. of Psychology, CAS.*

2:00 Y3 **417.02** Escalation and reinstatement of fentanyl self-administration in male and female rats. S. MALONE*; L. HAMMERSLAG; M. BARDO. *Univ. of Kentucky.*

3:00 Y4 **417.03** The effect of an acute food-deprivation stress on heroin seeking after punishment-imposed abstinence in rats. C. BORGES*; A. CHISHOLM; D. RIZZO; N. QUTEISHAT; T. CAPOLICCHIO; A. ROMANO; U. SHALEV. *Concordia Univ.*

4:00 Y5 **417.04** Development of a mouse model of compulsive-like oral fentanyl self-administration. S. MONROE*; K. SCHUH; A. K. RADKE. *Miami Univ.*

1:00 Y6 **417.05** Dissecting the role of dorsal hippocampus in reinstatement of drug seeking behavior. T. MARKOVIC*; N. MASSALY; J. GARCIA; J. YI; J. MORON-CONCEPCION. *Washington Univ. Sch. of Med.*

2:00 Y7 **417.06** ● Rat behavioral changes due to implanted striatal magnetic particles activated with externally-applied magnetic fields. D. N. TECENO*; P. WALIA; M. BATISTA-LINHARES; L. O. MAIR; S. JAFARI; P. STEPANOV; O. HALE; C. ROPP; A. HEVAGANINGE; I. N. WEINBERG; F. M. VASSOLER. *Tufts Univ., Weinberg Med. Physics.*

● Indicated a real or perceived conflict of interest, see page 150 for details.
▲ Indicates a high school or undergraduate student presenter.
* Indicates abstract's submitting author

3:00 Y8 **417.07** Effects of Nalfurafine on Oxycodone Self-Administration in Adolescent Male and Female Mice. Y. ZHANG*; M. KREEK. *Rockefeller Univ., The Rockefeller Univ.*

4:00 Y9 **417.08** Decreased cocaine but increased opioid reward in offspring of males exposed to morphine during adolescence. P. WALIA*; A. M. TOORIE; D. N. TECENO; T. D. PATTON; E. M. BYRNES; F. M. VASSOLER. *Tufts Univ.*

1:00 Y10 **417.09** Effect of chemogenetic activation of thalamo-accumbens projections on the augmentation of heroin seeking induced by chronic food restriction. A. CHISHOLM*; D. RIZZO; É. FORTIN; V. MOMAN; N. QUTEISHAT; J. MANOLIADIS; T. CAPOLICCHIO; A. ROMANO; P. PARSA; J. GASPARRI; C. BORGES; U. SHALEV. *Concordia Univ., Concordia Univ.*

2:00 Y11 **417.10** Role of the ghrelin system in oxycodone self-administration and brain stimulation reward. Z. YOU*; E. L. GARDNER; A. MOORE; T. BUCK; C. J. JORDAN; B. HUMBURG; G. BI; Z. XI; L. LEGGIO. *NIDA-IRP/NIH/DHHS, NIDA-IRP and NIAAA/NIH/DHHS.*

3:00 Y12 **417.11** CRF-5-HT interactions and motivation for stress-induced opioid relapse. N. MCCLOSKEY; C. LI; L. G. KIRBY*. *Lewis Katz Sch. of Med. at Temple Univ.*

4:00 Y13 **417.12** Environmental enrichment reduces cue-induced heroin-seeking in male and female rats. L. LOUGHLIN; S. EWING; R. RANALDI*. *Queens Col., The Grad. Center, CUNY.*

1:00 Y14 **417.13** Does the A118G mu-opioid receptor polymorphism predict sensitivity to reward downshifts? A. M. DANIEL*; B. K. RUSHING; K. TAPIA. *Texas A&M Univ. - San Antonio.*

2:00 Y15 **417.14** Fentanyl vapor self-administration in mice: A novel non-invasive preclinical opioid addiction model. M. ORTIZ*; K. MOUSSAWI; B. J. TUNSTALL; R. C. MARCHETTE; G. F. KOOB; A. BONCI; L. F. VENDRUSCOLO. *Natl. Inst. On Drug Abuse, NIDA, NIAAA.*

3:00 Y16 **417.15** GluA1 protein levels in the nucleus accumbens core and shell after the incubation of oxycodone craving. A. WHEATLEY; M. E. WOLF; M. T. STEFANIK*. *North Central Col., Oregon Hlth. & Sci. Univ.*

4:00 Y17 **417.16** Individual variation in the vulnerability and resilience to opioid dependence. B. N. KUHN*; A. T. ROBERTS; P. W. KALIVAS. *Med. Univ. of South Carolina.*

1:00 Y18 **417.17** Cellular specificity of matrix metalloproteinase activation on accumbens medium spiny neurons during heroin relapse. V. CHIOMA*; A. BOBADILLA; P. W. KALIVAS. *Med. Univ. of South Carolina, Med. Univ. of South Carolina, Med. Univ. S Carolina.*

2:00 Y19 **417.18** Adolescent nicotine exposure alters ventral tegmental area inhibitory transmission and enhances morphine reward learning in adulthood. R. E. WITTENBERG*; B. A. KIMMEY; A. J. EISCH; J. A. DANI. *Univ. of Pennsylvania, Children's Hosp. of Philadelphia.*

3:00 Y20 **417.19** Effects of acute oxycodone on brain stimulation reward in male and female rats using intracranial self-stimulation. N. CONSTANTINO; S. PAGE; M. MAVRIKAKI; T. LINTZ; E. H. CHARTOFF*. *Harvard Med. Sch., Harvard Med. Sch.*

4:00 Y21 **417.20** Evaluation of the opioid receptor pharmacology of the Kratom (Mitragyna speciosa) alkaloids Mitragynine and 7-Hydroxymitragynine in cell membranes and rats. T. HIRANITA*; S. OBENG; J. LEON OYOLA; A. E. PENNINGTON; M. E. REEVES; L. F. RESTREPO; J. S. FELIX; A. PATEL; A. LAWSON; J. PATEL; N. P. HO; V. A. TAYLOR; J. L. WILKERSON; C. R. MCCURDY; L. R. MCMAHON. *Univ. of Florida Col. of Pharm., Univ. of Florida, Col. of Pharm.*

1:00 Y22 **417.21** Ultrasonic vocalizations (USVs) during intravenous oxycodone self-administration and context-elicited reinstatement in male rats. S. J. SIMMONS*; W. H. HAURY; R. E. GREENBAUM; A. J. EISCH. *Children's Hosp. of Philadelphia Res. Inst., Univ. of Pennsylvania.*

2:00 Y23 **417.22** Gut-brain interactions in intravenous fentanyl self-administration. M. REN*; S. LOTFIPOUR. *Univ. of California Irvine, UCI.*

3:00 Y24 **417.23** Relation between acute withdrawal from morphine and predictors of drug abuse risk in rats. W. WHITE; I. M. WHITE*. *Morehead State Univ.*

4:00 Y25 **417.24** ● A smartphone-based tool for neuroeconomic prediction of treatment outcomes in opioid use disorder treatment. A. MELLIS*; A. B. KONOVA; S. LOPEZ-GUZMAN; T. BURLEIGH; H. BAYER; P. W. GLIMCHER. *NYU Langone Hlth., Rutgers, Univ. del Rosario, Unaffiliated, Datacubed Hlth., New York Univ. Ctr. for Neural Sci.*

1:00 Y26 **417.25** The long-acting glucagon-like peptide-1 receptor agonist, Liraglutide, reduces heroin self-administration and relapse in rats. J. E. DOUTON*; S. BALLARD; P. S. GRIGSON. *Pennsylvania State University, Col. of Med.*

2:00 Y27 **417.26** Differences in behavioral response to morphine in a genetic model of temperament. M. A. EMERY*; C. AYDIN; E. K. HEBDA-BAUER; P. M. MARAS; A. PARSEGIAN; A. V. STEFANOV; A. TANG; S. J. WATSON, Jr.; H. AKIL. *Univ. of Michigan, Univ. of Michigan.*

3:00 Y28 **417.27** Oral prescription opioid-seeking behavior in male and female mice. A. PHILLIPS*; D. MCGOVERN; J. LEE; K. RO; D. HUYNH; S. ELVIG; K. FEGAN; D. H. ROOT. *Univ. of Colorado Boulder, Univ. of Colorado Boulder.*

4:00 Y29 **417.28** Exploring the impact of biological sex on oxycodone place conditioning behavior in male and female rats. J. A. BABB*; G. B. KAPLAN; E. H. CHARTOFF. *Harvard Med. Sch., VA Boston Healthcare Syst., VA Boston Healthcare System/Boston Univ. Sch. Med., Harvard Med. Sch.*

1:00 Y30 **417.29** The sigma1 receptor antagonist CM304 enhances the antinociceptive effects of cannabinoid CB1 agonists, but not mu-opioid receptor agonists, in mice. S. OBENG*; S. INTAGLIATA; M. MOTTINELLI; L. F. RESTREPO; P. AVI; V. A. TAYLOR; M. E. REEVES; A. E. PENNINGTON; C. R. MCCURDY; L. R. MCMAHON; T. HIRANITA. *Univ. of Florida, Univ. of Florida.*

2:00 Y31 **417.30** Higher numbers of orexin-expressing neurons are associated with increased motivation for psychostimulants, opioids and palatable food. S. L. O'CONNOR*; M. H. JAMES; J. E. FRAGALE; C. B. PANTAZIS; B. S. BENTZLEY; A. MOHAMMADKHANI; K. A. PORTER-STRANSKY; G. ASTON-JONES. *Rutgers Univ., Florey Inst. of Neurosci. and Mental Hlth., Stanford Hlth. Care, Univ. of Calgary, Western Michigan Univ.*

- ● Indicated a real or perceived conflict of interest, see page 150 for details.
- ▲ Indicates a high school or undergraduate student presenter.
- * Indicates abstract's submitting author

POSTER

418. Attention and Neuromodulation

Theme H – Cognition

Mon. 1:00 PM – *McCormick Place, Hall A*

1:00 Y32 **418.01** Microcircuitry of visual attention: Laminar organization of attentional selection in area V4. J. A. WESTERBERG*; A. MAIER; J. D. SCHALL. *Vanderbilt Univ.*

2:00 Y33 **418.02** Contribution of area V4 to the N2pc event-related potential index of attention. M. S. SCHALL*; J. A. WESTERBERG; A. V. MAIER; J. D. SCHALL; G. F. WOODMAN. *Vanderbilt Univ.*

3:00 Y34 **418.03** Microcircuitry of visual attention: Attentional priming in area V4. J. D. SCHALL*; J. A. WESTERBERG; A. V. MAIER. *Vanderbilt Univ.*

4:00 Y35 **418.04** Speed-accuracy tradeoff of visual processing in supplementary eye field: Comparison with frontal eye field and superior colliculus. T. R. REPPERT*; R. P. HEITZ; J. D. SCHALL. *Vanderbilt Univ.*

1:00 Y36 **418.05** Separate modifiability of stages of target selection for visual search in macaques. K. A. LOWE*; T. R. REPPERT; J. D. SCHALL. *Vanderbilt Univ., Vanderbilt Univ.*

2:00 Y37 **418.06** Effects of an orexin-2 receptor agonist on attention in rats following loss of cortical cholinergic projections. S. A. BLUMENTHAL*; E. B. MANESS; J. R. FADEL; J. A. BURK. *William and Mary, William and Mary, Univ. of South Carolina Sch. of Med.*

3:00 Y38 **418.07** Dual orexin receptor antagonism attenuates dizocilpine-induced attentional impairments in a rat model of acute psychosis. E. B. MANESS*; S. A. BLUMENTHAL; J. BURK. *William and Mary, William and Mary.*

4:00 Y39 **418.08** Sustained attention leads to brain region specific changes in glutamine synthetase. J. BONANNO*; E. KHARITONOVA; T. WANG; L. A. NEWMAN. *Vassar Col., Vassar Col.*

1:00 Y40 **418.09** ▲ Inhibition of glutamine synthetase in the prelimbic cortex with methionine sulfoximine during sustained attention: Possible compensatory mechanisms? A. D. CASCONE*; S. ZHANG; W. XIE; E. KHARITONOVA; M. LEONG; L. A. NEWMAN. *Vassar Col., Vassar Col.*

2:00 Y41 **418.10** Effects of medial prefrontal cortical administration of the orexin-1 receptor antagonist, SB-334867, on attentional performance in rats. J. A. BURK*; R. PATEL; E. MANESS; S. BLUMENTHAL; J. R. FADEL. *William and Mary, Univ. of South Carolina Sch. of Med.*

3:00 Y42 **418.11** ● Dissociable attentional effects of dopaminergic and cholinergic lesions to the anterior cingulate cortex. M. K. CLEMENT*; C. S. PIMENTEL; J. A. SWAINE; A. J. PIMENTEL; D. HUTCHINS; J. A. MCGAUGHY. *Univ. of New Hampshire.*

4:00 Y43 **418.12** ● The effects of lesions to anterior cingulate cortex or mid-cingulate cortex on distractibility in rats. M. K. CLEMENT; C. S. PIMENTEL; J. A. MCGAUGHY*. *Univ. of New Hampshire.*

1:00 Y44 **418.13** Silencing of striatal cholinergic interneurons disrupts attentional-motor interactions. C. AVILA*; A. J. KUCINSKI; M. SARTER. *Univ. of Michigan, Univ. of Michigan.*

2:00 Z1 **418.14** Reduced choline clearance *in vivo* in mice expressing a choline transporter subcapacity variant associated with low attentional control in humans. E. DONOVAN*; C. AVILA; V. V. PARIKH; A. ANTCLIFF; R. D. BLAKELY; M. SARTER. *Univ. of Michigan, Temple Univ., Univ. of Michigan, Florida Atlantic Univ. - Charles E Schmidt Co, Univ. of Michigan Dept. of Psychology.*

3:00 Z2 **418.15** Behavioral and neural evidence for inhibition of return in barn owls (tyto alba). T. LEV-ARI*; Y. ZAHAR; A. AGARWAL; Y. GUTFREUND. *Technion - Israel Inst. of Technol., Technion, The Technion.*

4:00 Z3 **418.16** Comparative animal consciousness is multimodal and nonbinary. L. N. IRWIN*. *Univ. of Texas At El Paso.*

1:00 Z4 **418.17** D1 and D2 medium spiny neurons in the nucleus accumbens bi-directionally modulate attentional control behavior of mice. M. T. PISANSKY*; D. W. LEIPOLD; P. E. ROTHWELL. *Univ. of Minnesota.*

2:00 Z5 **418.18** ● Effects of attention on Granger causal interactions between cortical layers and cortical areas V1 and V4. D. FERRO*; J. VAN KEMPEN; M. BOYD; S. PANZERI; A. THIELE. *Inst. Italiano di Tecnologia, Univ. of Trento, Newcastle Univ.*

3:00 Z6 **418.19** The effect that selective and nonselective cannabinoid receptor agonists and antagonists have on the attentional system. M. CHAVEZ HERNANDEZ*; M. H. BUENROSTRO-JAUREGUI; M. MENDEZ-DIAZ; H. SANCHEZ-CASTILLO; C. A. HERNANDEZ-GUERRERO; E. R. BOJORGES-VALDEZ; L. F. S. HERNANDEZ-GONZALEZ; I. LOPEZ-CORTINA; O. R. GALICIA-CASTILLO. *Univ. Iberoamericana, A. C., Univ. Nacional Autonoma De Mexico, Univ. Nacional Autonoma De Mexico. Fac Psicologia, Univ. Iberoamericana, A. C., Univ. Iberoamericana, A. C.*

POSTER

419. Mechanisms Underlying Learning and Memory in Invertebrates

Theme H – Cognition

Mon. 1:00 PM – *McCormick Place, Hall A*

1:00 Z7 **419.01** Characterization of the nitric-oxide signaling cascades underlying short-term and long-term cellular correlates of feeding suppression induced by sensitization training in *aplysia*. R. MOZZACHIODI*; R. CHATTERJI; S. KHOURY; M. WAINWRIGHT. *Texas A&M Univ. Corpus Christi.*

2:00 Z8 **419.02** Characterization of the cellular mechanisms underlying memory impairment caused by food deprivation in an invertebrate model. X. DENG*; R. MOZZACHIODI. *Texas A&M University-Corpus Christi.*

3:00 Z9 **419.03** Complex interactions of PKA and MAPK pathways contribute to 5-HT-induced dynamics of RSK activation in *Aplysia* sensory neurons. Y. ZHANG*; R. LIU; L. J. CLEARY; J. H. BYRNE. *McGovern Med. Sch. of UTHSC at Houston.*

4:00 Z10 **419.04** Ribosomal S6 kinase is essential for long-term enhancement of excitability of sensory neurons of *Aplysia*. R. LIU*; Y. ZHANG; P. D. SMOLEN; L. CLEARY; J. H. BYRNE. *McGovern Med. Sch. of UTHSC At Houston.*

● Indicated a real or perceived conflict of interest, see page 150 for details.
▲ Indicates a high school or undergraduate student presenter.
* Indicates abstract's submitting author

1:00 Z11 **419.05** ▲ Transcriptional changes fade prior to long-term memory in sensitization of the *Aplysia* siphon-withdrawal response. T. ROSILES; M. NGUYEN; I. E. CALIN-JAGEMAN; R. CALIN-JAGEMAN*. *Dominican Univ.*

2:00 Z12 **419.06** A trial-by-trial associative-learning paradigm is modulated by biogenic amines and can result in trace-conditioning in *C. elegans.* E. LEE; H. R. HORVITZ. *MIT, MIT.*

3:00 Z13 **419.07** Learning-induced switch in a sensory response that anticipates changes in behavioural outcomes. P. R. BENJAMIN*; Z. PIRGER; Z. LÁSZLÓ; G. KEMENES; I. KEMENES. *Univ. Sussex.*

4:00 Z14 **419.08** CRISPRCas9 based genome editing of the FOXP locus in *Drosophila melanogaster.* O. PALAZZO*; B. BREMBS; A. EHWEINER. *Univ. Regensburg, Univ. Regensburg.*

1:00 Z15 **419.09** ▲ Bitter taste drives pain relief place learning in *drosophila melanogaster.* N. MEDA; G. FRIGHETTO; A. MEGIGHIAN*; M. A. ZORDAN. *Univ. of Padova, Univ. of Padova, Univ. of Padova.*

2:00 Z16 **419.10** The appetitive long term memory reacts differently to extinction wihtin a narrow time window. L. L. WANG*; Q. YANG; B. LU; Q. LI. *Tsinghua Univ., Inst. of Botany, the Chinese Acad. of Sci.*

3:00 Z17 **419.11** Single-cell RNA-seq identifies differential expression in response to memory formation in *Drosophila.* M. M. SHIH*; T. HIGE; G. C. TURNER; J. T. DUBNAU. *Stony Brook Sch. of Med., Univ. of North Carolina, Janelia Res. Campus, Stony Brook Sch. of Med.*

4:00 Z18 **419.12** Aversive training induces both pre and postsynaptic suppression in *Drosophila.* X. ZHANG*; N. NOYES; R. L. DAVIS. *Scripps Res.*

1:00 Z19 **419.13** The clock neurons acutely regulate memory retrieval in *Drosophila.* Y. ZHOU*; Y. ZHANG; Y. ZHONG. *Tsinghua Univ.*

2:00 Z20 **419.14** Screening for neuronal substrate of the inhibitory interaction between two genetically different learning systems in *Drosophila.* A. E. ERIKSSON*; B. BREMBS. *Univ. Regensburg.*

1:00 DP13/Z21 **419.15** (Dynamic Poster) FlyBrainLab: An interactive computing platform for the fruit fly brain. M. K. TURKCAN*; T. LIU; C. YEH; Y. ZHOU; A. A. LAZAR. *Columbia Univ.*

4:00 Z22 **419.16** Aversive conditioning in the tardigrade, Dactylobiotus dispar. T. C. DUMAS*; S. Y. ZHOU; J. P. DEFRANCO; N. T. BLAHA; A. M. KABBANI. *George Mason Univ., Univ. of Virginia.*

1:00 Z23 **419.17** Quest for neuronal cell analogs in nerveless animals: Ultrastructural atlas of cell types and behaviors in Placozoa. D. Y. ROMANOVA; F. VAROQUEAUX; M. EITEL; L. L. MOROZ*. *Russian Acad. of Sci., Univ. of Lausanne, Univ. of Munich, Univ. of Florida.*

2:00 Z24 **419.18** *De novo* transcriptome assembly and differential expression analysis in the ventral nerve cord of Manduca sexta after nociceptive sensitization. R. L. MELTON*; D. R. TABUENA; M. FUSE. *San Francisco State Univ.*

3:00 Z25 **419.19** ▲ Learning and memory in crayfish. A. JUÁREZ-JARAMILLO; A. DE LA O-MARTÍNEZ; M. OSORIO-PALACIOS; I. OLIVER-DOMÍNGUEZ; K. MENDOZA-ANGELES; J. HERNANDEZ-FALCON*. *Univ. Nacional Autónoma de México, Univ. Nacional Autónoma de México.*

4:00 Z26 **419.20** Laboratory studies of spatial learning in Fiddler crabs (Uca pugilator). F. W. GRASSO*; E. ISAACS; R. TROISE. *Brooklyn College, CUNY, Brooklyn College, CUNY.*

POSTER

420. Thalamic and Brainstem Circuits

Theme H – Cognition

Mon. 1:00 PM – *McCormick Place, Hall A*

1:00 Z27 **420.01** Motor thalamic innervation of NDNF-expressing interneurons in layer 1 motor cortex. N. S. M. BERRY*; R. SHAH; L. WAITE; K. MELETIS; A. SHAROTT. *Univ. of Oxford, Karolinska Inst.*

2:00 Z28 **420.02** Thalamic stimulation modulates consciousness in anesthetized macaques by restoring spontaneous and evoked fMRI activity in a cortical global neuronal workspace. J. TASSERIE*; L. UHRIG; J. D. SITT; M. DUPONT; S. DEHAENE; B. JARRAYA. *INSERM, CEA - Neurospin Ctr., ICM - Hôpital Pitié Salpêtrière, Collège de France, Foch Hosp., Univ. de Versailles Paris-Saclay.*

3:00 Z29 **420.03** ● A computational model of thalamic reticular circuits: Gating of signal processing by top-down control and effects of inhibitory dysfunction. Q. GU; N. H. LAM; J. D. MURRAY*. *Yale Univ., Yale Univ.*

4:00 Z30 **420.04** Mediodorsal and ventroanterior thalamic neurons are selective for rules and goals. J. M. PHILLIPS*; N. A. KAMBI; M. J. REDINBAUGH; E. R. JOHNSON; S. MOHANTA; Y. B. SAALMANN. *Univ. of Wisconsin-Madison, Univ. of Wisconsin-Madison.*

1:00 Z31 **420.05** Role of the paraventricular nucleus of the thalamus in regulating passive and active fear responses. J. MA*; M. A. PENZO. *Natl. Inst. Of Mental Health, Natl. Inst. of Hlth., Natl. Inst. of Mental Health, Natl. Inst. of Hlth.*

2:00 Z32 **420.06** Identification of functional domains within the paraventricular nucleus of the thalamus. C. GAO*; Y. LENG; J. MA; S. RODRIGUES-GONZALEZ; C. RAMAKRISHNAN; K. DEISSEROTH; M. A. PENZO. *Natl. Inst. of Mental Hlth., Brown Univ., Stanford Univ. Dept. of Psychology.*

3:00 Z33 **420.07** Pupil dynamics track optimal adjustments of decision making process in rats performing tactile discrimination tasks. S. NARASIMHAN*; B. SCHRIVER; K. LOU; Y. LIU; Q. WANG. *Columbia Univ.*

4:00 Z34 **420.08** The interplay between phasic pupil-linked arousal evoked by different cognitive processing components in perceptual decision-making. B. J. SCHRIVER*; Q. WANG. *Columbia Univ., Columbia Univ.*

1:00 Z35 **420.09** Lateral parabrachial neurons expressing tachykinin 1 mediate anorexia, adipsia, and escape behaviors elicited by peripheral threats. J. ARTHURS*; R. D. PALMITER. *Univ. of Washington-HHMI.*

2:00 Z36 **420.10** Effects of the cuneiform nuclei on fear and hunting. R. P. BINDI*; N. S. CANTERAS; M. A. X. DE LIMA; C. C. GUIMARÃES DE SOUZA. *Univ. of Sao Paulo.*

3:00 Z37 **420.11** Paraventricular thalamus controls behaviour during motivational conflict. E. CHOI*; P. JEAN-RICHARD-DIT-BRESSEL; C. CLIFFORD; G. MCNALLY. *Univ. of New South Wales - Kensington Campus.*

• Indicated a real or perceived conflict of interest, see page 150 for details.
▲ Indicates a high school or undergraduate student presenter.
* Indicates abstract's submitting author

POSTER

421. Human Learning: Feedback, Reinforcement, and Reward

Theme H – Cognition

Mon. 1:00 PM – *McCormick Place, Hall A*

1:00 Z38 **421.01** Dynamic factors in neuro-evolution. D. B. ROSENFIELD*; I. A. DUBOVOY. *Houston Methodist Hosp., Houston Methodist Neurolog. Inst.*

2:00 Z39 **421.02** EEG correlates of reward and effort processing during reinforcement learning. D. PALIDIS*; P. L. GRIBBLE. *Univ. of Western Ontario, Western University, Canada.*

3:00 Z40 **421.03** Social learning deficits in fronto-temporal dementia. S. ABREVAYA*; M. GONZÁLEZ GADEA; S. FITTIPALDI; S. ALARCO MARTÍ; A. GARCÍA; F. MANES; L. SEDEÑO; A. IBAÑEZ. *Inst. of Cognitive and Translational Neurosci.*

4:00 Z41 **421.04** A pavlovian over-expectation task to investigate behavior and learning based on imagined outcomes. J. TEGELBECKERS*; G. SCHOENBAUM; T. KAHNT. *Northwestern Univ., Natl. Inst. on Drug Abuse Intramural Res. Program, Northwestern Univ.*

1:00 Z42 **421.05** Cognitive training based on EEG-neurofeedback to improve working memory in healthy volunteers. B. BARBAZZENI*; E. DÜZEL; O. SPECK. *Otto-von-Guericke-Universität Magdeburg, Inst. Cognitive Neurol. and Dementia Res., Otto-von-Guericke-Universität Magdeburg.*

2:00 AA1 **421.06** The striatal feedback response reflects action updating. I. C. BALLARD*; M. DESPOSITO. *Univ. of California, Berkeley, Univ. of California Berkeley.*

3:00 AA2 **421.07** Interacting effects of experimentally-induced helplessness and transcranial direct current stimulation on Pavlovian bias in action selection. G. CSIFCSÁK*; J. BJØRKØY; S. KUYATEH; H. REITHE; V. D. DALOS; L. RÓNAI; S. SZALÓKI; M. MITTNER. *Dept. of Psychology, UiT The Arctic Univ. of Norway, Dept. of Psychology, Univ. of Szeged.*

4:00 AA3 **421.08** Expectation effects induced by transcranial electrical stimulation: Model-based vs. model-free components. E. BJØRKEDAL*; Z. TURI; C. J. JAKOBSEN; M. MITTNER. *UiT The Arctic Univ. of Norway, Univ. Med. Ctr. Goettingen.*

1:00 AA4 **421.09** Musical reinforcement learning paradigm in frontotemporal dementia: A model paradigm of abnormal reward prediction. E. BENHAMOU*; H. SIVASATHIASEELAN; C. HARDY; M. REQUENA-KOMURO; J. JOHNSON; C. GREAVES; L. RUSSELL; K. MOORE; J. ROHRER; J. WARREN. *UCL.*

2:00 AA5 **421.10** ▲ Selective attention and the effects of mismatched priming factors on the evoked response potentials of mental arithmetic processes. D. H. HUGHES; T. MILLARD; A. W. CHIU*. *Rose-Hulman Inst. of Technol.*

3:00 AA6 **421.11** The contribution of dopamine reward prediction errors to temporal representation and motor control. W. H. ALEXANDER*. *Florida Atlantic Univ.*

4:00 AA7 **421.12** Reinforcer and punishment during decision making: An electroencephalographic study. F. A. IRIBE BURGOS*; J. P. GARCÍA-HERNÁNDEZ; P. M. CORTES ESPARZA; C. SOTELO-TAPIA; M. A. GUEVARA; M. HERNÁNDEZ-GONZÁLEZ. *Inst. De Neurociencias.*

1:00 AA8 **421.13** Bioinspired few-shot learning in robotic systems. A. MARJANINEJAD*; D. URBINA-MELÉNDEZ; B. A. COHN; F. J. VALERO-CUEVAS. *USC, USC.*

2:00 AA9 **421.14** The development of curiosity across adolescence. E. TEDESCHI*; L. OUYANG; A. RATHE; C. VAN GEEN; C. MARVIN; N. L. TOTTENHAM; D. SHOHAMY. *Columbia Univ.*

3:00 AA10 **421.15** Towards a unified computational model of reinforcement learning. Y. SU; C. CHANG; T. HUANG*. *Natl. Taiwan Univ., MOST AI Biomed. Res. Ctr.*

4:00 AA11 **421.16** Neural mechanisms underlying human reinforcement learning in a continuous choice space. J. LEE*; S. KIM. *Inst. of Basic Sci.*

1:00 AA12 **421.17** Rational predictions guide information-seeking behavior in temporally uncertain environments. E. A. LANG*; C. VAN GEEN; E. TEDESCHI; D. SHOHAMY. *Columbia Univ.*

2:00 AA13 **421.18** Participants rely on both absolute and relative position when making inferences about ordered lists. T. KAO*; C. E. MICHAELCHECK; V. P. FERRERA; H. S. TERRACE; G. JENSEN. *New York City Col. of Technology/ City Univ. of New York, Columbia Univ., Columbia Univ.*

3:00 AA14 **421.19** Ventromedial prefrontal damage impairs model based learning. L. Q. YU*; A. FILIPOWICZ; M. R. NASSAR; J. W. KABLE. *Brown Univ., Univ. of Pennsylvania.*

4:00 AA15 **421.20** Iron deficiency in college-aged women negatively affects neural measures of feedback and reward processing during procedural and declarative learning. M. J. WENGER*; S. E. RHOTEN; A. SAJID; T. L. LAWSON; L. A. DE STEFANO; L. BOOZARY. *The Univ. of Oklahoma, The Univ. of Oklahoma.*

1:00 AA16 **421.21** The effects of hypothesis generation and search patterns on curiosity. A. HSIUNG*; A. KHAN; B. NIEVES; K. C. DICKERSON; S. A. HUETTEL; R. ADCOCK. *Duke Univ., Duke Univ., Duke Univ.*

2:00 AA17 **421.22** Overlap in stimulus-response rules is insufficient for retrieval of task set memories. O. LOSITSKY*; D. BADRE. *Brown Univ.*

3:00 AA18 **421.23** A novel paradigm for social learning and decision-making: The social multi-armed bandit. J. ADRIAN*; S. SIDDHARTH; S. BAQUAR; T. JUNG; G. DEAK. *UC San Diego, UC San Diego.*

4:00 AA19 **421.24** How the human nervous system defines the dimensionality of energy optimization in walking. S. J. ABRAM*; J. C. SELINGER; J. M. DONELAN. *Simon Fraser Univ., Queen's Univ., Simon Fraser Univ.*

1:00 AA20 **421.25** Can I eat this? Event-related potentials are modulated by feedback regarding edibility. R. GRAHAM*; R. LOPAS; A. ZBOROWSKI; N. CEBALLOS; J. TREFFALLS. *Texas State Univ. San Marcos.*

2:00 AA21 **421.26** Neural mechanisms of preserving alternative prediction errors. N. YINMEI*; S. WANG; J. SU; X. WAN; J. LI. *Beijing Normal Univ., Beijing Normal Univ., Beijing Normal Univ. - Beijing, Peking Univ.*

3:00 AA22 **421.27** Computational and neural mechanisms of error-based learning in a dynamic environment. S. WANG*; Y. NI; J. SU; J. LI; X. WAN. *Beijing Normal Univ., Peking Univ., Beijing Normal Univ.*

• Indicated a real or perceived conflict of interest, see page 150 for details.
▲ Indicates a high school or undergraduate student presenter.
* Indicates abstract's submitting author

POSTER

422. Human Long-Term Memory: Medial Temporal Lobe III

Theme H – Cognition

Mon. 1:00 PM – *McCormick Place, Hall A*

1:00 AA23 **422.01** Spontaneous rs-fMRI activity within the classic hippocampal subfields. L. M. EZAMA-FORONDA*; E. PEREDA; N. JANSSEN. *Univ. of La Laguna.*

2:00 AA24 **422.02** A memory computational basis for the other-race effect. J. L. YAROS*; D. A. SALAMA; D. DELISLE; M. S. LARSON; B. A. MIRANDA; M. A. YASSA. *Ctr. for the Neurobio. of Learning and Memory, Univ. of California Irvine.*

3:00 AA25 **422.03** Ultrahigh resolution diffusion imaging reveals abnormal medial temporal lobe integrity predicts poor performance on RAVLT delayed recall in the oldest old. S. J. GRANGER*; M. S. LARSON; M. T. SATHISHKUMAR; A. P. SMITH; L. MCMILLAN; D. GREENIA; M. M. CORRADA; C. H. KAWAS; M. A. YASSA. *Univ. of California, Irvine, Univ. of California, Irvine, Univ. of California, Irvine.*

4:00 AA26 **422.04** Reduced long-range default mode network connectivity predicts conversion to Alzheimer's disease in older individuals with Down syndrome. N. D. DIPROSPERO*; D. B. KEATOR; T. G. VAN ERP; E. DORAN; I. T. LOTT; M. A. YASSA. *Univ. of California, Irvine, Univ. of California, Irvine, Univ. of California, Irvine Med. Ctr.*

1:00 AA27 **422.05** Pattern separation beyond the hippocampus: Neocortico-hippocampal mechanisms of pattern separation in humans. S. GATTAS*; J. J. LIN; M. A. YASSA. *Univ. of California, Irvine, Univ. of California, Irvine, Univ. of California Irvine.*

2:00 AA28 **422.06** Mnemonic discrimination in the oldest old and relationship with volumes of medial temporal lobe and striatal regions. M. S. LARSON*; M. T. SATHISHKUMAR; N. DIPROSPERO; A. SMITH; L. MCMILLAN; D. GREENIA; M. WITBRACHT; M. M. CORRADA; C. H. KAWAS; J. GRILL; M. A. YASSA. *Univ. of California, Irvine, Univ. of California Irvine, Univ. of California Irvine.*

3:00 AA29 **422.07** The neural circuit bases of prolonged maternal grief for the loss of her child. M. T. SATHISHKUMAR*; J. ADAMS*; T. Z. BARAM; M. A. YASSA. *Univ. of California, Univ. of California.*

4:00 AA30 **422.08** Functional connectivity of the medial temporal lobe contributes to spatial discrimination impairments in non-demented older adults with and without memory impairments. F. MARQUEZ*; M. A. YASSA. *Univ. of California Irvine, Univ. of California Irvine Dept. of Neurobio. and Behavior.*

1:00 AA31 **422.09** Spatial memory is protective against Alzheimer's disease. S. FOO*; D. SODUMS; V. D. BOHBOT. *Douglas Mental Hlth. Univ. Inst., Johns Hopkins Univ., Douglas Mental Hlth. Univ. Inst.*

2:00 AA32 **422.10** Negative correlation between grey matter in the hippocampus and caudate nucleus in healthy aging. V. D. BOHBOT*. *Douglas Mental Hlth. Univ. Inst.*

3:00 AA33 **422.11** Landmark-dependent navigation strategy use within a mobile video game declines with age and is associated with better spatial memory performance. G. WEST*; E. PATAI; A. COUTROT; M. HORNBERGER; H. J. SPIERS; V. D. BOHBOT. *Univ. of Montreal, UCL Inst. of Behavioural Neurosci., Univ. de Nantes, Univ. of East Anglia, Univ. Col. London, Douglas Mental Hlth. Univ. Inst.*

4:00 AA34 **422.12** Human ripples in spatial memory. T. GEDANKIEN*; J. MILLER; J. JACOBS. *Columbia Univ.*

1:00 AA35 **422.13** Direct electrical stimulation of the human cortex modulates narrowband low frequency oscillations. U. R. MOHAN*; J. JACOBS. *Columbia Univ., Columbia Univ.*

2:00 AA36 **422.14** Predictive cognitive map representations by human single neurons. I. MOMENNEJAD; A. PATEL; C. S. INMAN; R. E. GROSS; B. C. LEGA; L. ROBINSON; C. A. SCHEVON; G. MCKHANN; A. WATROUS; R. J. BUCHANAN; J. JACOBS*. *Columbia Univ., Emory Univ., Emory Univ. Sch. Med., UT Southwestern Med. Ctr., UT Southwestern Med. Ctr., Columbia Univ. Med. Ctr., Univ. of Texas at Austin, Seton Brain and Spine Inst.*

3:00 AA37 **422.15** The spatiotemporal structure of human cortical traveling waves correlates with cognitive processes. H. ZHANG*; J. JACOBS. *Columbia Univ., Columbia Univ.*

4:00 AA38 **422.16** Low theta oscillations in the anterior hippocampus predict successful encoding of spatial and verbal memories in humans. S. E. QASIM*; J. MILLER; J. JACOBS. *Columbia Univ.*

1:00 AA39 **422.17** Dimensionality reduction in human hippocampal dentate/CA3, but not CA1 support pattern separation. H. ZHANG*; I. SKELIN; M. A. YASSA; J. J. LIN. *Univ. of California Irvine, Univ. of California Irvine, Univ. of California Irvine.*

1:00 DP12/AA40 **422.18** (Dynamic Poster) Distinct functional connectivity patterns predict the peri-ripple population activity in human amygdala and temporal cortex. J. J. LIN*; H. ZHANG; B. L. MCNAUGHTON; I. SKELIN. *Univ. of California, Irvine, Univ. of California Irvine, Univ. of California Irvine, Univ. of Lethbridge, Univ. of California Irvine.*

3:00 AA41 **422.19** Changes in frequency power during anesthesia induction with propofol: A comparison between frontal cortex and the mesial temporal lobe. S. MA; M. R. PAFF*; I. SKELIN; H. ZHANG; J. LIN. *Univ. of California, Irvine, Univ. of California, Irvine, Univ. of Lethbridge, Univ. of California Irvine.*

4:00 AA42 **422.20** Feedback-tuning of single neurons: Evidence for distributed learning signals in the human brain. I. SKELIN; H. ZHANG*; A. DEDE; S. VADERA; M. PAFF; I. SEN-GUPTA; L. MNATSAKANYAN; F. P. K. HSU; E. A. BUFFALO; R. T. KNIGHT; J. J. LIN. *Univ. of California Irvine, Univ. of California Irvine, Univ. of Washington, Univ. of California Irvine, Univ. of Washington, Univ. of California Berkeley.*

POSTER

423. Human Long-Term Memory: Modulation

Theme H – Cognition

Mon. 1:00 PM – *McCormick Place, Hall A*

1:00 AA43 **423.01** Integrating memories: How congruency and reactivation aid integration of old and new memories. M. T. VAN KESTEREN*; P. RIGNANESE; P. GIANFERRARA; L. KRABBENDAM; M. MEETER. *Vrije Univ. Amsterdam, Inst. Pasteur, Carnegie Mellon Univ.*

2:00 AA44 **423.02** Anterograde interference of reactivated memories only during the first hour after training: Evidence of an early reconsolidation loop. A. E. CLAIN*; B. A. WRIGHT. *Northwestern Univ., Northwestern Univ., Northwestern Univ.*

• Indicated a real or perceived conflict of interest, see page 150 for details.
▲ Indicates a high school or undergraduate student presenter.
* Indicates abstract's submitting author

3:00 BB1 **423.03** Sleep age and race linked to neural pattern similarity of associative memory. E. HOKETT*; S. MIRJALILI; A. L. DUARTE. *Georgia Inst. of Technol.*

4:00 BB2 **423.04** Multiple memories can be simultaneously reactivated during sleep as effectively as a single memory. E. SCHECHTMAN*; J. W. ANTONY; A. LAMPE; B. WILSON; K. A. NORMAN; K. A. PALLER. *Northwestern Univ., Princeton Univ., Northwestern Univ., Princeton Univ., Northwestern Univ.*

1:00 BB3 **423.05** Updating the meaning of a word: Memory reactivation boosts integration into an existing memory trace. L. KACZER*; J. LAURINO; F. CHAVES; C. FORCATO; M. PEDREIRA. *IFIBYNE CONICET, Unidad Ejecutora de Estudios de Neurociencias y Sistemas Complejos, CONICET, Univ. Nacional Arturo Jauretche, Hosp. de Alta Complejidad en Red El Cruce "Néstor Kirchner", Florencio Varela, Argentina.*

2:00 BB4 **423.06** Evidence that anterograde learning interference arises from an interaction of memories in different learning stages. R. NING*; B. A. WRIGHT. *Northwestern Univ., Northwestern Univ., Northwestern Univ.*

3:00 BB5 **423.07** ● Memory reactivation: A mechanism underlying enhanced persistence of emotional memories. N. HERZ*; Y. BAR-HAIM; H. SHARON; E. HOLMES; N. CENSOR. *Tel-Aviv Univ., Tel Aviv Sourasky Med. Ctr., Karolinska Institutet.*

4:00 BB6 **423.08** The impact of predictability on memory representations. M. KUMAR*; N. B. TURK-BROWNE; K. A. NORMAN. *Princeton Univ., Yale Univ.*

1:00 BB7 **423.09** Twisting your memory: How the brain rewrites memories as the understanding of the past changes. A. ZADBOOD*; S. A. NASTASE; J. CHEN; K. NORMAN; U. HASSON. *Princeton Univ., Johns Hopkins Univ.*

2:00 BB8 **423.10** Anticipation of temporally structured events in the brain. C. LEE*; M. ALY; C. BALDASSANO. *Columbia Univ.*

3:00 BB9 **423.11** A neural network model of naturalistic schema learning with computer-generated poetry. M. E. SIEGELMAN*; N. KRIEGESKORTE; C. BALDASSANO. *Columbia Univ.*

4:00 BB10 **423.12** Prediction errors at event boundaries drive episodic memory reconsolidation. A. H. SINCLAIR*; G. M. MANALILI; M. D. BARENSE. *Duke Univ., Univ. of Toronto.*

1:00 BB11 **423.13** Transient memory loss in humans 1-3 hours after training. B. A. WRIGHT*; A. E. CLAIN; R. NING. *Northwestern Univ.*

2:00 BB12 **423.14** A neural marker of declarative memory maintenance. M. KWON*; S. LEE. *KAIST, KAIST.*

3:00 BB13 **423.15** How memory-based decisions evolve over time. P. M. KRAEMER*; S. GLUTH. *Univ. of Basel.*

4:00 BB14 **423.16** Exploring the evolving geometric structure of experiences and memories. P. C. FITZPATRICK*; A. C. HEUSSER; J. R. MANNING. *Dartmouth Col.*

1:00 BB15 **423.17** Predicting subjective and objective memory recollection from prefrontal cortex activations using high-density fNIRS. Y. RAH*; J. SHIN; S. LEE. *Korea Advanced Inst. of Sci. and Technol., Korea Advanced Inst. of Sci. and Technol.*

2:00 BB16 **423.18** REM sleep enhances emotion-relevant recapitulation. R. BOTTARY*; S. M. KARK; R. DALEY; J. PAYNE; E. A. KENSINGER. *Boston Col., Univ. of Notre Dame Dept. of Psychology.*

3:00 BB17 **423.19** ● Cortical thickness predicts recall improvement due to noninvasive stimulation targeting the hippocampal-cortical network in older adults. Y. LAGOUTINA*; A. S. NILAKANTAN; M. A. NIASARI; L. WANG; J. L. VOSS. *Northwestern Univ., Northwestern Univ., Brock Univ., Northwestern Univ. Feinberg Sch. of Med., Northwestern Univ.*

4:00 BB18 **423.20** Conformance of mental events to a group timeline during movie-viewing reflects cognitive ability. J. TSENG*; J. POPPENK. *Queen's Univ., Queen's Univ.*

1:00 BB19 **423.21** ▲ Familiar movies are less effective at aligning viewers' cognitions. Y. LU*; J. TSENG; J. POPPENK. *Queen's Univ., Queen's Univ.*

2:00 BB20 **423.22** Relatively large posterior hippocampal volumes predict greater memory precision in movie timeline task. S. W. GORLICK*; J. POPPENK. *Queen's Univ.*

3:00 BB21 **423.23** Emdr is not "special": De-arousal effects reflect domain-general memory-weakening phenomena. J. POPPENK*; D. WILSON. *Queen's Univ.*

4:00 BB22 **423.24** Sequential reactivation during offline periods in humans. M. PETZKA*; G. BALANOS; B. P. STARESINA. *Univ. of Birmingham, Univ. of Birmingham.*

1:00 BB23 **423.25** Post-learning sleep oscillations track learning networks as revealed via human electrocorticography. H. V. NGO*; Y. Y. CHEN; D. YOSHOR; B. L. FOSTER; B. STARESINA. *Univ. of Birmingham, Baylor Col. of Med., Baylor Col. Med.*

2:00 BB24 **423.26** Differential contributions of sleep oscillations to item- and associative memory consolidation. T. SCHREINER*; B. P. STARESINA. *Univ. of Birmingham.*

3:00 BB25 **423.27** Structural brain integrity of patients with medial temporal lobe resection in relation with episodic memory. W. JEONG*; J. KIM; C. CHUNG. *Seoul Natl. Univ. Col. of Med., Seoul Natl. Univ. Hosp., Seoul Natl. Univ., Seoul Natl. Univ.*

4:00 BB26 **423.28** Training related suppression of EEG signals complexity. U. MALINOWSKA*; J. WOJCIECHOWSKI; M. WALIGÓRA; J. ROGALA. *Nencki Inst. of Exptl. Biol., World Hearing Ctr. of Inst. of Physiol. and Pathology of Hearing.*

1:00 BB27 **423.29** Evolutionary conserved role of neural cell adhesion molecule-1 (NCAM1) in memory. P. MASTRANDREAS*; V. VUKOJEVIC; F. PETER; I. KOLASSA; T. ELBERT; D. J. DE QUERVAIN; A. PAPASSOTIROPOULOS; A. STETAK. *Univ. of Basel, Univ. of Ulm, Univ. of Konstanz.*

POSTER

424. Cognition and Connectivity

Theme H – Cognition

Mon. 1:00 PM – *McCormick Place, Hall A*

1:00 BB28 **424.01** ▲ An fMRI investigation of medial prefrontal network dynamics during a context-dependent rule learning task. W. MA*; T. M. MORIN; A. E. CHANG; C. E. STERN. *Boston Univ.*

- ● Indicated a real or perceived conflict of interest, see page 150 for details.
- ▲ Indicates a high school or undergraduate student presenter.
- * Indicates abstract's submitting author

2:00 BB29 **424.02** Cortical contributions to perceptual and symbolic reasoning using a one-dimensional raven's progressive matrices task. T. M. MORIN*; A. E. CHANG; C. E. STERN. *Boston Univ., Boston Univ., Boston Univ.*

3:00 BB30 **424.03** Overlapping frontal network mediates task-related connectivity changes between intrinsic cognitive control networks. S. L. COOKSON*; M. D'ESPOSITO. *Univ. of California, Berkeley.*

4:00 BB31 **424.04** Cognitive control networks balance domain generality and specificity in representing task rule information across multiple cognitive domains. D. H. SCHULTZ*; T. ITO; M. W. COLE. *Univ. of Nebraska, Lincoln, Rutgers The State Univ. of New Jersey.*

1:00 BB32 **424.05** Impulsivity and cognitive control in human intracranial and extracranial EEG. E. H. SMITH*; B. KUNDU; B. PHILIP; T. DAVIS; J. D. ROLSTON. *Univ. of Utah.*

2:00 BB33 **424.06** Effect of heart rate reserve on prefrontal cortical activation in healthy older adults while dual-task walking. A. BISHNOI*; G. CHAPARRO; M. HERNANDEZ. *Univ. of Illinois At Urbana-Champaign, California State Univ. Dominguez Hills.*

3:00 BB34 **424.07** The lateralization of mirror neurons in theinferior frontal gyrus during motion observation and execution. F. ZHANG*; S. IWAKI. *Natl. Inst. of Advanced Industrial Sci., Natl. Inst. Adv Indust Sci. & Tech.*

4:00 BB35 **424.08** Frontostriatal connectivity during abstract sequential control. T. H. MCKIM*; T. M. DESROCHERS. *Brown Univ., Brown Univ.*

1:00 BB36 **424.09** Continuous tracking of error-related negativity via electrocorticography in humans. E. AHN*; J. PLASS; D. BRANG. *Univ. of Michigan, Univ. of Michian.*

2:00 BB37 **424.10** Surprise modulates orienting-related but not strategic post-error processing. Y. GUAN*; J. R. WESSEL. *Univ. of Iowa.*

3:00 BB38 **424.11** Chronic aerobic exercise as a modulator of cognitive control. M. L. WUNDER*; W. R. STAINES. *Univ. of Waterloo, Univ. Waterloo.*

4:00 BB39 **424.12** Task invariant and task dependent neural processes of conflict resolution during cognitive control. Y. XIAO*; H. YU; C. CHOU; Y. SHIH; J. MADSEN; D. WEISHOLTZ; I. M. REUCROFT; N. E. CRONE; W. ANDERSON; G. KREIMAN. *Harvard Univ., Neurolog. Institute, Taipei Veterans Gen. Hosp., Inst. of Brain Science, Brain Res. Center, Natl. Yang-Ming Univ., Boston Children's Hospital, Harvard Med. Sch., Brigham and Women's Hospital, Harvard Med. Sch., Johns Hopkins Univ., Johns Hopkins Hosp., Johns Hopkins Med. Sch., Harvard Univ.*

1:00 BB40 **424.13** A novel training method of frontal lobe functions - An application of Wisconsin card sorting test and effects on colour stroop task. M. SUGANAMI*; S. ABE; K. KOBAYASHI; K. IMAMURA; M. KOMATSU. *Wako Rehabil. Hosp., RIKEN Ctr. For Brain Sci.*

2:00 BB41 **424.14** ▲ Using independent components analysis to better understand the electrophysiology of error processing. S. M. WESTERLAND; M. M. LORTIE; S. J. BECKER; S. D. DORTCH; D. S. LELAND*. *Univ. of Wisconsin-Eau Claire.*

3:00 BB42 **424.15** Effect of exogenous melatonin on cognitive functions. J. SANCHEZ-BETANCOURT*; M. AVILA-COSTA; C. HERRERA-VERDUGO; M. HUERTA-JAUREGUI; R. MUÑOZ-JIMENEZ; F. CARRILLO-GARCIA; M. OLMEDO-LICEA; A. MEZA-AMAYA. *Fes-Iztacala, UNAM-UABC, FES-Iztacala, UNAM, UABC.*

4:00 BB43 **424.16** Resilience after terror: The role of memory suppression. A. MARY*; J. DAYAN; G. LEONE; C. POSTEL; F. FRAISSE; C. MALLE; T. VALLÉE; C. KLEIN-PESCHANSKI; F. VIADER; V. DE LA SAYETTE; D. PESCHANSKI; F. EUSTACHE; P. GAGNEPAIN. *Normandie Univ, UNICAEN, PSL Res. University, EPHE, INSERM, U1077 Neuropsychology and Imaging of Human Memory, CHU de Caen, CNRS, CNRS, UMR8209, Univ. Paris I Panthéon Sorbonne, EHESS, Univ. de PSL.*

1:00 BB44 **424.17** Frontostriatal interactions during cognitive control. D. A. VOGELSANG*; J. RIDDLE; M. DESPOSITO. *D'Esposito Lab., Univ. of North Carolina at Chapel Hill, Univ. of California Berkeley.*

2:00 BB45 **424.18** Neural dynamics across human prefrontal cortex supporting different levels of abstraction. D. M. CLEVELAND*; J. M. PHILLIPS; S. CHEN; L. WANG; Y. B. SAALMANN. *Univ. of Wisconsin-Madison, Chinese Acad. of Sci., Inst. of Psychology, Chinese Acad. of Sci., Univ. of Wisconsin - Madison.*

3:00 BB46 **424.19** Accelerometer-measured physical activity is positively related to functional connectivity of the dorsal attention network in young adults. D. M. PINDUS*; C. E. ZWILLING; J. S. JARRETT; T. TALUKDAR; H. S. SCHWARB; C. H. HILLMAN; N. J. COHEN; A. F. KRAMER; A. K. BARBEY. *Univ. of Illinois at Urbana-Champaign, Univ. of Illinois at Urbana-Champaign, Univ. of Illinois at Urbana-Champaign, Univ. of Illinois at Urbana-Champaign, Northeastern Univ., Univ. of Illinois at Urbana-Champaign.*

4:00 BB47 **424.20** Studying executive functions during mental fatigue using functional near infrared spectroscopy (fNIRS). G. H. KUHN*; S. SKAU; I. H. JONSDOTTIR; L. BUNKETORP-KÄLL; B. JOHANSSON. *Univ. of Gothenburg, Inst. for Stress Med., Sahlgrenska Univ. Hosp.*

1:00 BB48 **424.21** Prospective and retrospective metacognitive judgments: Neural evidence that when a judgment is made determines the type of information used. T. KELLEY*; M. J. SERRA; B. D. ENGLAND; T. DAVIS. *Texas Tech. Univ., Missouri Western State Univ.*

2:00 BB49 **424.22** A two component model of human intelligence within the lateral frontal cortex. W. R. TRENDER*; R. BRAGA; A. HAMPSHIRE. *Imperial Col. London, Stanford.*

3:00 BB50 **424.23** Single neurons in human medial frontal cortex signal conflict post-action. Z. FU*; C. M. REED; J. M. CHUNG; A. N. MAMELAK; R. ADOLPHS; U. RUTISHAUSER. *Caltech, Cedars Sinai Med. Ctr., Cedars Sinai Med. Ctr., Cedars-Sinai Med. Ctr.*

4:00 BB51 **424.24** Stroop interference and 5HTTLPR polymorphism between heavy smokers. H. AGUILAR-ZAVALA*; J. NEGRETE-DIAZ; D. VARGAS-QUINTANA; F. SOTO. *Univ. De Guanajuato.*

1:00 BB52 **424.25** Inter personal functional connectivity in low beta band is associated with emotional convergence during watching movie. H. KIM*; P. SEO; S. HER; S. CHOI; J. CHOI; K. KIM. *Yonsei Univ., UCLA.*

2:00 BB53 **424.26** Changes in event-related potential due to vigilance reduction by long-term driving. P. SEO*; H. KIM; S. HER; S. CHOI; J. CHOI; K. KIM. *Yonsei Univ., UCLA.*

• Indicated a real or perceived conflict of interest, see page 150 for details.
▲ Indicates a high school or undergraduate student presenter.
* Indicates abstract's submitting author

3:00 BB54 **424.27** Abnormal cortical activities of idiopathic REM sleep behavior disorder patients during visuospatial attention revealed by deep neural network. S. HER*; D. YEO; H. KIM; P. SEO; K. CHA; S. CHOI; J. CHOI; J. LIM; J. BYUN; T. KIM; K. JUNG; K. KIM. *Yonsei Univ., Seoul Natl. Univ. Hosp., UCLA, Kangnam Sacred Heart Hosp., Kyung Hee Univ. Hosp. at Gangdong, Ajou Univ. Sch. of Medicine, Ajou Univ. Med. Ctr.*

4:00 BB55 **424.28** Higher flexibility in functional connectivity dynamics is associated with higher creativity and lower inhibition. H. XIE*; S. JAHANIKIA; C. GENIESSE; R. BEATY; N. SONALKAR; M. SAGGAR. *Stanford Univ., Pennsylvania State Univ.*

1:00 BB56 **424.29** In search of the extinction network: A multi-center study. C. GOMES*; F. LABRENZ; H. QUICK; D. TIMMANN-BRAUN; N. AXMACHER. *Ruhr Univ. Bochum, Univ. of Duisburg-Essen.*

2:00 BB57 **424.30** Episodic past, future, and counterfactual thinking in relapsing-remitting multiple sclerosis patients. F. DE BRIGARD*; O. AYALA; D. BANTA; L. DUARTE; A. LOZANO; J. GARCIA; P. MONTAÑÉS; S. W. DAVIS. *Duke Univ., Univ. Nacional de Colombia, Clinica Marly, Duke Univ. Med. Ctr.*

POSTER

425. Development, Cognition, and Connectivity

Theme H – Cognition

Mon. 1:00 PM – *McCormick Place, Hall A*

1:00 BB58 **425.01** ● Frontal asymmetry in ADHD and its modulation by TMS treatment. A. AVNIT; U. ALYAGON; A. ZANGEN*. *Ben-Gurion Univ. of the Negev.*

2:00 BB59 **425.02** Functional reorganization for executive functions in deaf individuals. B. MANINI*; V. VINOGRADOVA; B. WOLL; M. EIMER; D. CAMERON; J. SAADA; V. CARDIN. *Univ. of East Anglia, Univ. Col. London, Birkbeck Univ. of London, Univ. of East Anglia, Norwich and Norfolk Univ. Hosp.*

3:00 BB60 **425.03** Hyperactivation of inferior frontal gyrus inhibits hyperactivity in ADHD: A quantitative EEG study. T. BATABYAL*; S. P. MUTHUKRISHNAN; C. LEON; R. SAGAR; P. TAYADE; R. SHARMA; S. KAUR. *All India Inst. of Med. Sciences, New Delhi, All India Inst. of Med. Sciences, New Delhi.*

4:00 BB61 **425.04** Effects of repetitive head impacts on cognitive functions in collegiate contact sport athletes. C. R. VUELVAS-OLMOS*; N. Y. CORTÉS-ALVAREZ; P. J. FLORES-MORENO; A. VUELVAS-OLMOS; J. GUZMÁN-MUÑIZ; N. A. MOY-LÓPEZ; F. ROJAS-LARIOS. *Univ. of Colima, Univ. of Colima, Univ. of Colima, Univ. of Colima, Univ. of Colima.*

1:00 BB62 **425.05** Effects of cognitive-motor training on executive function and resting prefrontal cortex connectivity in preschool children: An fNIRS study. C. ENG*; M. POCSAI; F. FISHBURN; N. C. WILLIAMS; D. CALKOSZ; E. THIESSEN; A. FISHER. *Carnegie Mellon Univ., Univ. of Pittsburgh Med. Ctr., Carnegie Mellon Univ., Carnegie Mellon Univ.*

2:00 BB63 **425.06** A resting-state fNIRS study in early childhood and early adolescence. S. EOM*; J. CHOI; J. KIM; M. LEE; D. YI. *Yonsei Univ. Col. of Med., Optical Brain Electronics Lab., Epilepsy Res. Inst., Yonsei Univ.*

3:00 BB64 **425.07** Working memory, inhibitory control, and set-shifting in an unmedicated ADHD cohort diagnosed in adulthood. V. A. GRANE*; A. SOLBAKK; T. ENDESTAD. *Helgeland Hosp., Univ. of Oslo, Oslo Univ. Hosp. - Rikshospitalet.*

4:00 BB65 **425.08** Time course of induced oscillatory neural activity during Stroop conflict in healthy adults and children. C. L. DALE*; L. B. HINKLEY; K. G. RANASINGHE; T. L. LUKS; A. M. FINDLAY; N. J. POJMAN; P. BUKSHPUN; T. THIEU; T. P. ROBERTS; P. MUKHERJEE; E. H. SHERR; S. S. NAGARAJAN. *Univ. of California San Francisco, Univ. of California San Francisco, Children's Hosp. of Philadelphia.*

1:00 BB66 **425.09** Neuropsychological assessment of executive functions in juvenile offenders. P. ZARATE GONZALEZ*; J. VAZQUEZ-RAMIREZ; N. SANDOVAL-FLORES; F. BENITES-SERRATOS; D. PAZ-TREJO; H. SANCHEZ-CASTILLO. *Iberoamerican Society For Applied Neurosci. (NG.*

2:00 BB67 **425.10** Do different self-control skills in youth share a common neural substrate. J. F. GUASSI MOREIRA*; A. S. MENDEZ LEAL; Y. WAIZMAN; N. EMILIA; J. A. SILVERS. *UCLA, UCLA.*

3:00 BB68 **425.11** Neural approach for understanding event segmentation in early development. T. S. YATES*; L. J. SKALABAN; C. T. ELLIS; N. B. TURK-BROWNE. *Yale Univ.*

4:00 BB69 **425.12** Association between lung function and neurocognitive assessments in urban minority children. L. B. MENDEZ*; H. J. ROSA-LOPEZ; N. G. MEDINA. *Univ. Ana G. Mendez, Univ. Ana G. Mendez.*

1:00 BB70 **425.13** Polygenic score of intelligence is more predictive of crystallized than fluid performance among children. R. J. LOUGHNAN*; C. E. PALMER; W. K. THOMPSON; A. M. DALE; T. L. JERNIGAN; C. CHIEH FAN. *UCSD, UCSD, UCSD, UCSD, Univ. of California San Diego, UCSD.*

2:00 BB71 **425.14** Neurobehavioral trait and state signatures in child-victims of peer bullying. I. SOLIS*; Y. KIM; C. M. MCGINNIS; P. G. LESNIK; L. SERNA; K. T. REWIN CIESIELSKI. *Pediatric Neurosci. Lab., Univ. of New Mexico, Dept. of Special Education, Univ. of New Mexico, MGH/MIT A. A. Martinos Ctr. for Biomed. Imaging, Massachusetts Gen. Hospital, HMS.*

3:00 BB72 **425.15** Functional dynamics of the infant brain. S. NAIK*; D. BATTAGLIA; G. DEHAENE-LAMBERTZ. *UNICOG, Neurospin, INS, Univ. Aix-Marseille.*

4:00 BB73 **425.16** Brain and cognitive sequelae of preterm birth: Baseline findings from the ABCD study. F. HAIST*; N. AKSHOOMOFF. *UC San Diego.*

1:00 BB74 **425.17** ▲ ASD and ADHD motor neurodevelopmental disorders. J. V. JOSE*; J. I. NURNBERGER, Jr.; M. H. PLAWECKI; A. PHADNIS; K. DOCTOR. *Indiana Univ., Indiana Univ., Indiana Univesity, Indiana Univesity, Univ. of Massachusetts Amherst.*

2:00 BB75 **425.18** Mental abacus skilled kindergarteners have enhanced attentional and spatial abilities. D. CHENG*; X. ZHOU. *Capital Inst. of Pediatrics, Beijing Normal Univ.*

3:00 BB76 **425.19** Combined analysis of cortical surface area and cortical thickness in adolescent anorexia nervosa. P. M. ASLAKSEN*; A. D. MYRVANG; J. H. ROSENVINGE; T. ENDESTAD; K. STEDAL; Ø. RØ; T. R. VANGBERG. *UiT The Arctic Univ. of Norway, UiT The Arctic Univ. of Norway, Univ. of Oslo, Oslo Univ. Hosp.*

- ● Indicated a real or perceived conflict of interest, see page 150 for details.
- ▲ Indicates a high school or undergraduate student presenter.
- * Indicates abstract's submitting author

4:00 BB77 **425.20** Investigation of intergroup bias in two neuromaturationally distinct age cohorts: An ERP study. R. M. HANNA*; T. J. BOSCH; K. A. FERCHO; L. A. BAUGH. *Univ. of South Dakota, Univ. of South Dakota, Univ. of South Dakota.*

1:00 BB78 **425.21** Brain maturity: The structural connectome and its relationship with psychiatric symptoms in youth. A. LUNA*; C. JIOOK; J. POSNER. *Columbia Univ. Med. Ctr., New York State Psychiatric Inst.*

2:00 BB79 **425.22** Developmental increase in 1/f slope in EEG oscillatory power. D. CELLIER*; J. RIDDLE; K. HWANG. *Univ. of Iowa, Univ. of North Carolina, Chapel Hill.*

3:00 BB80 **425.23** White matter microstructure and childhood head injury: Results from the adolescent brain cognitive development (ABCD) study. C. SHETH*; R. HUBER; E. MCGLADE; P. RENSHAW; D. A. YURGELUN-TODD. *Univ. of Utah, Univ. of Utah.*

4:00 BB81 **425.24** Identifying behavioral and neural predictors of caffeinated soda intake in childhood using a large database from the ABCD study. M. KWON*; H. KIM*; J. YANG; J. HUR; T. LEE; W. AHN. *Seoul Natl. Univ., Virginia Polytechnic Inst. and State Univ., Seoul Natl. Univ.*

1:00 BB82 **425.25** Topological abnormal load in ADHD functional brain network. Z. GRACIA TABUENCA*; J. DIAZ-PATIÑO; I. ARELIO; S. ALCAUTER. *Univ. Nacional Autónoma de México.*

2:00 BB83 **425.26** The evolution of narrative processing during development. S. S. COHEN*; C. BALDASSANO. *Columbia Univ.*

3:00 BB84 **425.27** Parietal hyper-connectivity is associated with low math performance during adolescence. R. A. ABREU-MENDOZA*; M. PINCUS; Y. CHAMORRO; E. MATUTE; M. J. ROSENBERG-LEE. *Rutgers Univ., Univ. de Guadalajara.*

4:00 BB85 **425.28** Using EEG to evaluate an early childhood intervention. K. J. YE*; A. SAMEK; K. J. YODER; J. DECETY; A. HORTACSU; J. A. LIST. *Univ. of Chicago, USC, Univ. of Chicago.*

POSTER

426. Subcortical-Cortical Interactions

Theme H – Cognition

Mon. 1:00 PM – *McCormick Place, Hall A*

1:00 CC1 **426.01** ● Understanding the role of cortico-cerebellar circuits in supporting cognitive control. M. AVERY*; B. CAMPBELL; N. MATTHEWS; A. G. MACHADO; K. B. BAKER. *Case Western Reserve Univ., Cleveland Clin. Lerner Col. of Med., Cleveland Clin., Cleveland Clin.*

2:00 CC2 **426.02** Does layer 5 of the cortex project to the thalamic reticular nucleus? Implications for core and matrix thalamocortical circuits and sleep spindles. A. YAZDANBAKHSH; B. ZIKOPOULOS*. *Boston Univ.*

3:00 CC3 **426.03** Motor inhibition and motor-based response conflict share a common neural mechanism involving the subthalamic nucleus. D. A. WALLER*; A. SINGH; A. ESPINOZA; N. S. NARAYANAN; J. R. WESSEL. *Univ. of Iowa, Univ. of Iowa Col. of Med.*

4:00 CC4 **426.04** Hippocampal connectivity with sensorimotor cortex during volitional finger movements: Evidence for volitional control. D. D. BURMAN*; B. PETROVIC; J. MEYER. *Northshore Univ. Healthsystem.*

1:00 CC5 **426.05** Characterizing higher-order thalamo-cortical projection patterns in humans. A. M. HOWELL*; S. WARRINGTON; J. JI; B. ADKINSON; C. FONTENEAU; S. N. SOTIROPOULOS; J. D. MURRAY; A. ANTICEVIC. *Yale Univ., Univ. of Nottingham.*

2:00 CC6 **426.06** Neurocognitive processes associated with reduced top-down control of prepotent eye movements in autism spectrum disorder. S. E. KELLY*; L. M. SCHMITT; J. A. SWEENEY; M. W. MOSCONI. *The Univ. of Kansas, Univ. of Kansas, Univ. of Kansas, Cincinnati Children's Hosp. Med. Ctr., Univ. of Cincinnati.*

3:00 CC7 **426.07** ● Mapping neurodevelopmental trajectories of thalamo-cortical systems across the mental health spectra. C. FONTENEAU; A. HOWELL; A. KOLOBARIC; L. J. JI; G. REPOVS; N. D. WOODWARD; A. ANTICEVIC*. *Yale Univ. Sch. of Med., Yale Univ. Sch. of Med., Yale Univ., Univ. of Ljubljana, Vanderbilt Univ. Sch. of Medicine, Yale Univ.*

4:00 CC8 **426.08** A 20-minute single-bout of aerobic exercise optimizes psychological arousal and improves executive function. N. AYALA*; M. D. HEATH. *Univ. of Western Ontario.*

1:00 CC9 **426.09** Neuromodulatory brainstem activity predicts intrinsic co-fluctuations in cortical activity. R. L. VAN DEN BRINK*; O. COLIZOLI; J. W. DE GEE; T. H. DONNER. *Univ. Med. Ctr. Hamburg-Eppendorf, Univ. Med. Ctr. Hamburg-Eppendorf.*

2:00 CC10 **426.10** ● Parasympathetic arousal related cortical activity is associated with attention during cognitive task performance. A. D. BARBER*; M. JOHN; P. DEROSSE; M. L. BIRNBAUM; T. LENCZ; A. K. MALHOTRA. *Feinstein Inst. for Med. Res., Hofstra Univ.*

POSTER

427. Personalized Brain Signatures

Theme H – Cognition

Mon. 1:00 PM – *McCormick Place, Hall A*

1:00 CC11 **427.01** The neural basis of inter individual differences in episodic memory performance. L. GEISSMANN*; D. COYNEL; D. J. DE QUERVAIN. *Univ. of Basel.*

2:00 CC12 **427.02** Hierarchical bayesian analyses reveal individual differences in the neural dynamics of response inhibition. M. F. MOLLOY*; G. BAHG; Z. LU; B. M. TURNER. *The Ohio State Univ.*

3:00 CC13 **427.03** Partitioning heritability analalysis unveils the genetic architecture of human brain functional connectivity patterns. J. FENG*; G. XUE. *State Key Lab. of Cognitive Neurosci. and.*

4:00 CC14 **427.04** Mixed handedness predicts academic achievement of university students. G. PLUCK*; P. BRAVO MANCERO. *Univ. San Francisco De Quito, Univ. Nacional de Chimborazo.*

• Indicated a real or perceived conflict of interest, see page 150 for details.
▲ Indicates a high school or undergraduate student presenter.
* Indicates abstract's submitting author

1:00 CC15 **427.05** Inter-subject representational similarity analysis reveals phenotype-specific patterns of brain activity during movie watching. E. S. FINN*; A. KHOJANDI; D. A. HANDWERKER; P. J. MOLFESE; P. BANDETTINI*. *NIMH-NIH, NIMH-NIH.*

2:00 CC16 **427.06** Predictive utility of functional connectivity vs. voxel activation. C. G. HABECK*; Q. R. RAZLIGHI; Y. STERN. *Columbia Univ.*

3:00 CC17 **427.07** Physiological and cognitive factors underlying perceptual variability in a sensory system. M. MANTEL; C. MANESSE; A. FOURNEL; C. ROUBY; C. FERDENZI; M. BENSAFI*. *Ctr. De Recherche En Neurosciences De Lyon.*

4:00 CC18 **427.08** The brain network of personality traits and cognition. L. PIRETTI; T. CERNI; D. CHECCHI; R. JOB; R. RUMIATI*. *Univ. of Trento, Univ. degli Studi di Milano, SISSA.*

1:00 CC19 **427.09** Tracking gray matter footprints of neurally distributed cognitive functions. E. AKPAN; G. E. KOCH; M. N. COUTANCHE*. *Univ. of Pittsburgh.*

2:00 CC20 **427.10** Assessment of individual differences in navigation by diffusion MRI connectometry. J. M. SMITH*; E. R. CHRASTIL. *UCSB.*

3:00 CC21 **427.11** Genes to memory: Multi-level omics data integration of quantitative trait loci linked to memory in two independent samples. V. VUKOJEVIC*; V. FREYTAG; A. MILNIK; A. PAPASSOTIROPOULOS; D. J. DE QUERVAIN. *Univ. of Basel, Univ. of Basel.*

4:00 CC22 **427.12** Heritability of individual variant sub-types in functional brain networks. B. A. SEITZMAN*; C. N. LESSOV-SCHLAGGAR; B. ADEYEMO; A. DWORETSKY; B. T. KRAUS; S. E. PETERSEN; C. GRATTON. *Washington Univ. Sch. of Med., Washington Univ. Sch. of Med., Washington Univ. Sch. of Med., Northwestern Univ., Washington Univ. Sch. of Med., Washington Univ. in St. Louis, Washington Univ. in St. Louis, Northwestern Univ., Northwestern Univ.*

1:00 CC23 **427.13** Stability of individual variations in functional connectivity across states. B. KRAUS*; B. A. SEITZMAN; A. DWORETSKY; S. E. PETERSEN; C. GRATTON. *Northwestern Univ., Washington Univ. Sch. of Med., Washington Univ. Sch. of Med., Washington Univ. Sch. of Med., Northwestern Univ.*

2:00 CC24 **427.14** Probabilistic mapping of human functional brain networks identifies regions of high inter-subject consensus. A. DWORETSKY*; B. A. SEITZMAN; B. ADEYEMO; M. NETA; R. S. COALSON; S. E. PETERSEN; C. GRATTON. *Washington Univ. Sch. of Med., Washington Univ. Sch. of Med., Univ. of Nebraska – Lincoln, Washington Univ. Sch. of Med., Washington Univ. Sch. of Med., Washington Univ. Sch. of Med., Northwestern Univ., Northwestern Univ., Northwestern Univ.*

3:00 CC25 **427.15** Neural oscillations and nursery rhymes (an EEG study into individual differences in infant language development). A. ATTAHERI*; A. NI CHOISDEALBHA; P. BRUSINI; S. ROCHA-THOMAS; S. FLANAGAN; N. MEAD; P. BOUTRIS; S. GIBBON; H. SCOTT; H. AHMED; I. WILLIAMS; U. GOSWAMI. *Univ. of Cambridge, Univ. of Liverpool.*

4:00 CC26 **427.16** Local DTI patterns predict fMRI language task activation with group-level precision. D. G. ELLIS*; M. R. AIZENBERG. *Univ. of Nebraska Med. Ctr.*

1:00 CC27 **427.17** ● Cortical networks associated with the human anterior medial temporal lobe estimated within the individual using intrinsic functional connectivity. D. REZNIK*; L. M. DINICOLA; R. M. BRAGA; P. ANGELI; R. L. BUCKNER. *Harvard Univ., Stanford Univ., Massachusetts Gen. Hosp., Harvard Med. Sch.*

2:00 CC28 **427.18** Fast temporal characterization of distributed association networks within the individual using intracranial recording and repeated sampling functional MRI. R. M. BRAGA*; C. A. SAVA-SEGAL; R. A. POLDRACK; J. PARVIZI. *Stanford Univ., 450 Serra Mall Bldg. 420.*

3:00 CC29 **427.19** ● Proof-of-concept longitudinal tracking of brain change within individual patients using repeated acquisitions of rapid structural scans. L. C. HANFORD*; J. A. NIELSEN; R. W. MAIR; J. A. COLLINS; M. QUIMBY; M. C. ELDAIEF; B. C. DICKERSON; R. L. BUCKNER. *Harvard Univ., Brigham Young Univ., Massachusetts Gen. Hosp., Harvard Med. Sch.*

4:00 CC30 **427.20** Human structural connectomes are heritable. J. CHUNG; B. D. PEDIGO; C. PRIEBE; J. T. VOGELSTEIN*. *Johns Hopkins Univ.*

1:00 CC31 **427.21** cBRAIN: Tracking all individuals and marking their brain activity for the study of collective brain research. C. KIM*; J. KIM; W. YOUM; S. LEE; J. CHOI. *Korea Inst. of Sci. and Technol., Univ. of Sci. and Technol., Korea Univ., Electronics and Telecommunications Res. Inst.*

2:00 CC32 **427.22** Resting state EEG in patient with completely locked in syndrome. M. KHALILI ARDALI*; U. CHAUDHARY; N. BIRBAUMER. *Inst. For Med. Psychology and Behavioural N, Wyss Ctr. for Bio and Neuroengineering.*

3:00 CC33 **427.23** Human age is predicted by a strong multidimensional association of brain networks and behavioral factors. B. MCPHERSON*; F. PESTILLI. *Indiana Univ. Bloomington, Indiana Univ.*

POSTER

428. Animal Models of Risk Factors for Schizophrenia

Theme H – Cognition

Mon. 1:00 PM – *McCormick Place, Hall A*

1:00 CC34 **428.01** Neurotrophic and antioxidant effects of risperidone improve dendritic spine dynamics in the prefrontal cortex of rats with neonatal ventral hippocampus lesion. H. TENDILLA*; R. A. VAZQUEZ-ROQUE; A. J. VÁZQUEZ-HERNÁNDEZ; D. MARTÍN-HERNÁNDEZ; K. MACDOWELL; L. GARCÉS-RAMÍREZ; J. LEZA; G. FLORES. *Inst. Politécnico Nacional, Benemérita Univ. Autónoma de Puebla, Univ. Complutense de Madrid, Univ. Complutense de Madrid, Ctr. de Investigación Biomédica en Red de Salud Mental (CIBERSAM), Inst. de Investigación Sanitaria Hosp. 12 de Octubre.*

2:00 CC35 **428.02** The effect of neonatal GSK3 inhibition on the regulation of behavioral deficits and neuromorphological alterations in AKT1 mutant mouse model of schizophrenia. S. WAN*; T. JEN; W. LAI. *Dept. of Psychology, Natl. Taiwan Univ., Dept. of Life Science, Natl. Taiwan Univ., Grad. Inst. of Brain and Mind Sciences, Natl. Taiwan Univ., Neurobio. and Cognitive Sci. Center, Natl. Taiwan Univ.*

3:00 CC36 **428.03** ● Investigating the role of the pre and postnatal maternal environments on offspring behavioural deficits in a rodent model of maternal immune activation. H. G. POTTER*; G. REVILL; R. M. WOODS; J. D. GLAZIER; J. C. NEILL; R. HAGER. *Univ. of Manchester.*

● Indicated a real or perceived conflict of interest, see page 150 for details.
▲ Indicates a high school or undergraduate student presenter.
* Indicates abstract's submitting author

4:00 CC37 **428.04** MicroRNA-206 signaling in cerebellar Purkinje cells regulates avoidance behaviors and sensorimotor gating. M. P. HEYER*; M. ISHIKAWA; G. FENG; P. J. KENNY. *Icahn Sch. of Med. At Mount Sinai, MIT.*

1:00 CC38 **428.05** Prenatal exposure to environmental factors affects protein expression of rat brain and increases risk of developing schizophrenia. H. LEE; H. KIM; J. KWON; H. KIM*. *Soonchunhyang University, Col. of Med.*

2:00 CC39 **428.06** Neuronal avalanches in a developmental mouse model for schizophrenia. S. R. MILLER*; S. SENGUPTA; D. PLENZ. *Univ. of Maryland Col. Park, Natl. Inst. of Mental Hlth.*

3:00 CC40 **428.07** Impact of maternal immune activation and adolescent cannabinoid exposure on auditory mismatch responses in awake, freely-moving rats. A. DUNN; J. JALEWA; J. TODD; D. HODGSON; P. T. MICHIE; L. R. HARMS*. *Univ. of Newcastle, The Univ. of Newcastle.*

4:00 CC41 **428.08** ● Blocking PirB to grow new dendritic spines in the prefrontal cortex; a potential novel treatment for the cognitive deficits in schizophrenia. H. MACNEIL*; W. INOUE; B. L. ALLMAN; R. RAJAKUMAR. *Univ. of Western Ontario, Univ. of Western Ontario, Univ. of Western Ontario, Univ. Western Ontario.*

1:00 CC42 **428.09** Developmental NMDA receptor ablation in a subset of interneurons confers circuit-wide aberrant gene expression and schizophrenia-like impairments. V. MAHADEVAN*; R. CHITTAJALLU; A. PELTEKIAN; K. A. PELKEY; C. ESNAULT; Y. ZHANG; M. DRAGAN; X. YUAN; S. HUNT; D. ABEBE; R. DALE; T. J. PETROS; C. J. MCBAIN. *NICHD, NIH, NICHD, NIH, NICHD, NIH, NINDS, NIH.*

2:00 CC43 **428.10** Role of delayed maturation of $GABA_A$ receptor function in schizophrenia. G. LEE*; N. RAJAKUMAR; W. INOUE. *Western Univ., Western Univ., Western Univ.*

3:00 CC44 **428.11** Consequences of Arc/Arg3.1 deletion during development on schizophrenia-endophenotypes in the adult mouse. X. GAO*; J. GRENDEL; M. MUHIA; S. CASTRO-GOMEZ; D. ISBRANDT; M. KNEUSSEL; D. KUHL; O. OHANA. *Univ. Med. Ctr. Hamburg-Eppendorf (UKE), Univ. Med. Ctr. Hamburg-Eppendorf (UKE), DZNE and UzK Res. Team Exptl. Neurophysiology, Univ. of Cologne.*

4:00 CC45 **428.12** Chronic early-life lead exposure disrupts behavior and neuronal systems relevant to mental disorders and substance abuse. D. ALBORES-GARCIA*; J. L. MCGLOTHAN DZIEDZIC; D. R. BROOKS; K. H. STANSFIELD; T. R. GUILARTE. *Florida Intl. Univ., Columbia Univ.*

1:00 CC46 **428.13** Glycogen synthase kinase 3 (GSK3) inhibition alleviates deficits in *in vivo* spike synchrony, gamma oscillation and cognitive impairment in a schizophrenia mouse model. K. NAKAO*; R. HUNTER; K. NAKAZAWA. *Southern Res., Univ. of Alabama at Birmingham.*

2:00 CC47 **428.14** Neonatal ventral hippocampal lesions causes deficits in value-based decision making in adult rats. N. PREM*; L. T. RAO; J. P. JOHN; B. M. KUTTY. *Dept. of Neurophysiology, Natl. Inst. of Mental Hlth. & Neurosciences, Dept. of Psychiatry, Natl. Inst. of Mental Hlth. & Neurosciences.*

3:00 CC48 **428.15** Interleukin-15/natural killer cell deficiency alters the effect of poly IC maternal immune activation on the offspring. F. HADDAD*; S. PATEL; C. DE OLIVEIRA; K. WIECZERZAK; B. ALLMAN; S. RENAUD; S. SCHMID. *Univ. of Western Ontario, Univ. of Western Ontario, Univ. of Western Ontario.*

POSTER

429. Anatomic Methods: Electron Microscopy

Theme I – Techniques

Mon. 1:00 PM – *McCormick Place, Hall A*

1:00 CC49 **429.01** Development of genetically encoded multiplex barcodes for cell labeling under electron microscopy. R. SUN*; Y. YANG; Y. HU; Z. ZHANG; Y. LI. *State Key Lab. of Membrane Biology, Peking Univ. Sch. of Life Sci., PKU-IDG/McGovern Inst. for Brain Res., Peking-Tsinghua Ctr. for Life Sciences, Acad. for Advanced Interdisciplinary Studies, Chinese Inst. for Brain Res.*

2:00 CC50 **429.02** ● Rapid automated serial block face SEM preparation of brain tissue. S. L. GOODMAN*; J. M. CAMPBELL; P. H. SMITH; E. K. BENSON; G. J. KIDD. *Univ. of Wisconsin, Microscopy Innovations, LLC, Dept. of Neurosci., Renovo Neural, Inc.*

3:00 CC51 **429.03** Real consequences of improved histocompatibility: A TEM study of flexible organics vs standard rigid implants in mice and the effect on seizure onset. S. SAFIEDDINE*; E. RUSINA; R. POULKOURAS; F. MISSEY; B. BOTZANOWSKI; E. ACERBO; A. SLEIZA; M. DONAHUE; M. CARRÈRE; A. WILLIAMSON. *Inst. de Neurosciences des Systèmes, Ecole Nationale Supérieure des Mines.*

4:00 CC52 **429.04** Whole brain staining for electron microscopy. G. WILDENBERG; A. M. SOROKINA*; N. B. KASTHURI. *Univ. of Chicago/Argonne Natl. Lab., Univ. of Chicago, Univ. of Chicago.*

1:00 CC53 **429.05** ▲ Towards a partial connectome of hair and skin. E. A. OLAPO*; N. B. KASTHURI; J. AUSTIN, II; A. MASELLI. *Chicago State Univ., Univ. of Chicago, Univ. of Chicago, Chicago State Univ.*

2:00 CC54 **429.06** A quantitative ultrastructural readout of *in vivo* presynaptic activity for connectomics. A. SIMON*; A. ROTH; M. FISEK; V. MARRA; C. RACCA; K. STARAS; M. HAUSSER. *Univ. Col. London, Univ. of Leicester, Newcastle Univ., Univ. of Sussex.*

3:00 CC55 **429.07** The influence of the microbiome on the ‘connectome’ of the enteric nervous system. V. SAMPATHKUMAR; M. E. FRITH*; A. SHAHBAZI; N. PATEL; V. LEONE; E. B. CHANG; N. B. KASTHURI. *Univ. of Chicago, Univ. of Chicago, Univ. of Chicago, Natl. Inst. of Hlth. (NIH), Univ. of Chicago.*

4:00 CC56 **429.08** Segmentation of murine cervical vagus nerve fibers from transmission electron microscopy images using domain randomization and deep convolutional neural networks. V. TÓTH*; T. TSAAVA; E. H. CHANG; A. BORCA-TASCIUC; T. P. ZANOS. *Feinstein Inst. for Med. Res.*

1:00 CC57 **429.09** Reconstruction of motor control circuits in adult *Drosophila* with automated transmission electron microscopy. D. G. C. HILDEBRAND*; J. T. MANIATES-SELVIN; B. J. GRAHAM; L. A. THOMAS; A. T. KUAN; B. L. SHANNY; W. A. LEE. *Harvard Med. Sch., Boston Children’s Hosp.*

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▲ Indicates a high school or undergraduate student presenter.
* Indicates abstract’s submitting author

2:00 CC58 **429.10** Combined light and electron microscopy characterize microcircuits in an excitatory retinal amacrine cell. K. FRIEDRICHSEN*; J. HSIANG; D. KERSCHENSTEINER; J. L. MORGAN. *Washington Univ. In St. Louis.*

POSTER

430. Techniques: Microelectrodes I

Theme I – Techniques

Mon. 1:00 PM – *McCormick Place, Hall A*

1:00 CC59 **430.01** Building and testing a system for neural ensemble recording from a subcortical bundled electrode. C. AYON-GARCIA; J. HARRINGTON; N. KUHLMANN; M. TCHERNOOKOV; M. A. WARACZYNSKI*; O. YAVUZCETIN; D. ZAMZOW. *Univ. of Wisconsin Whitewater.*

2:00 CC60 **430.02** Dura penetration, deep insertion, and electrophysiological recording with cellular-scale microelectrodes using 3D-printed custom skull cap. L. CHEN*; J. HARTNER; T. DONG; P. R. PATEL; J. RICHIE; A. SHIH; C. A. CHESTEK; B. O. WATSON. *Univ. of Michigan, Univ. of Michigan, Univ. of Michigan, Univ. of Michigan.*

3:00 CC61 **430.03** MRI compatible, 3D printed microdrive for chronic or acute neurophysiological recordings. R. SWADER; E. BAEG; H. LEE; A. ROSENBERG; B. KIM*. *Mogridge Inst. for Res., CNIR, Inst. For Basic Sci. (IBS), Univ. of Wisconsin Madison, Univ. of Wisconsin - Madison.*

4:00 CC62 **430.04** ● An open-source, interactive neuronavigation system for planning, simulating and performing surgeries. S. SCHAFFELHOFER*; W. ZARCO; R. PRÜCKL; W. FREIWALD. *The Rockefeller Univ., cortEXplore GmbH.*

1:00 CC63 **430.05** Accelerated aging test of organic and inorganic packaging materials for implantable neural interface devices. Y. GONG*; W. YANG; W. LI; Q. FAN. *Michigan State Univ.*

2:00 CC64 **430.06** ▲ Chronic *in-vivo* recording of rodent neural systems utilizing an updated affordable and open-sourced microdrive. A. RAMACHANDRAN; A. ALAVI; A. EL BANNA; G. M. MUIR*. *St. Olaf Col.*

3:00 CC65 **430.07** Developing a 3D parylene-based multi-electrode array for large-scale recordings from the rat brain. W. JIANG*; H. XU; X. WANG; E. MENG; D. SONG. *USC.*

4:00 CC66 **430.08** Transparent inkjet-printed ECoG electrode arrays integrated into polymer skulls for simultaneous whole cortex electro- and opto- physiological monitoring. P. DONALDSON*; Z. S. NAVABI; M. RYNES; L. GHANBARI; S. B. KODANDARAMAIAH; S. L. SWISHER. *Univ. of Minnesota, Univ. of Minnesota, Univ. of Minnesota.*

1:00 CC67 **430.09** Functional characterization of graphene microelectrodes on rat sensorimotor cortex. F. T. DUVAN*; D. VIANA; S. WALSTON; J. A. GARRIDO; B. GÜÇLÜ. *Boğaziçi Univ., Catalan Inst. of Nanoscience and Nanotechnology – ICN2.*

2:00 CC68 **430.10** Simultaneous *in vivo* measurement of neural activity, extracellular glutamate and GABA concentrations using an MRI-compatible implantable microelectrode array. E. MITRICHEVA; R. KIMURA; L. PASCUAL MANSILLA; E. KRAMPE; A. OELTERMANN; N. K. LOGOTHETIS; H. R. NOORI*. *Max Planck Inst. For Biol. Cybernetics.*

3:00 CC69 **430.11** A multisite active neuro-technology array for high density recordings and stimulation. M. VOMERO; C. BOEHLER; R. LILJEMALM; T. STIEGLITZ; M. ASPLUND*. *Univ. of Freiburg, Univ. of Freiburg.*

4:00 CC70 **430.12** Dense cortical and sub-cortical recording of brain activity in different animal models using SiNAPS active probes. F. BOI*; A. LECOMTE; A. CASILE; G. MANDELBAUM; B. ZAAIMI; N. PERENTOS; G. SCHWESIG; J. ASSAD; B. L. SABATINI; A. M. SIROTA; A. JACKSON; G. N. ANGOTZI; L. BERDONDINI. *Fondazione Inst. Italiano di Tecnologia, Fondazione Inst. Italiano di Tecnologia, Harvard Med. Sch., Newcastle Univ., Ludwig-Maximilians-Universität München, Fondazione Inst. Italiano di Tecnologia, Harvard Med. Sch. Dept. of Neurobio., Ludwig-Maximilians Univ. München, Newcastle Univ., Fondazione Inst. Italiano di Tecnologia.*

1:00 CC71 **430.13** ● A multi-channel capacitive coupled implantable system to restore natural sensory feedback. P. KIELE*; C. F. PASLUOSTA; T. STIEGLITZ. *Univ. of Freiburg.*

2:00 CC72 **430.14** ● 3D-printed implants that facilitate chronic recordings and reuse of neuropixels probes in freely behaving rodents. F. MICHON*; C. AYDIN; R. VAN DAAL; H. DEN BAKKER; J. SUN; S. HAESLER; F. KLOOSTERMAN. *NeuroElectronics Res. Flanders.*

3:00 CC73 **430.15** Continuous long-term tracking of neuronal clusters with ultraflexible oversampling electrode array. H. ZHU*; X. LI; Z. ZHAO; F. HE; X. WEI; L. LUAN; N. TRAN; C. XIE. *The Univ. of Texas At Austin, The Univ. of Texas At Austin.*

4:00 CC74 **430.16** ● Using EEG as a translatable pharmacodynamic biomarker in non-human primates: Test case and reliability. P. GARCES*; M. POULIOT; S. AUTHIER; J. F. HIPP. *Roche Innovation Ctr. Basel, Citoxlab North America.*

1:00 CC75 **430.17** Improved carbon fiber electrode array targeting, density, and fabrication throughput for the detection of electrophysiological and dopaminergic activity. P. R. PATEL*; B. D. LUMA; E. J. WELLE; A. VEGA-MEDINA; J. RICHIE; T. DONG; D. EGERT; L. CHEN; A. J. SHIH; J. D. BERKE; D. CAI; J. B. BECKER; C. A. CHESTEK. *Univ. of Michigan, Univ. of California, San Francisco.*

2:00 CC76 **430.18** Fast functional imaging of neural networks with nanoelectrode arrays. N. MUKUNDAN*; H. YOON; A. KHAN; C. OWUSU-ANSAH. *Norfolk State Univ., Norfolk State Univ.*

3:00 CC77 **430.19** ● Highly flexible microelectrode arrays for intracortical single unit recording. M. LEBER*; A. HURLBUT; S. WIEBE; R. BHANDARI; S. NEGI. *Blackrock Microsystems.*

4:00 CC78 **430.20** Ultra-sensitive measurement of *in vivo* brain penetration with microscale probes and live imaging. A. M. OBAID; Y. WU*; M. HANNA; J. B. DING; N. MELOSH. *Stanford Univ., Stanford Univ., Mina-Elraheb Hanna, Stanford Univ. Dept. of Neurosurg., Stanford Univ.*

1:00 DD1 **430.21** ● Improved insertion of floating microelectrode arrays in brain with an ultrasonic vibration insertion system. R. S. CLEMENT*; N. N. TIRKO; J. K. GREASER; R. B. BAGWELL; M. L. MULVIHILL. *Actuated Med. Inc.*

2:00 DD2 **430.22** Suture-like braided microprobes for peripheral nerve interfaces and multi-sites and combinatorics for higher yields in neural recording. T. KIM*; K. A. SCHMIDT; S. F. GISZTER. *Drexel Univ. Col. of Med., Drexel Univ., Drexel Univ. Col. of Med.*

• Indicated a real or perceived conflict of interest, see page 150 for details.
▲ Indicates a high school or undergraduate student presenter.
* Indicates abstract's submitting author

3:00 DD3 **430.23** Leveraging MRI, CAD, CAM and 3D printing to implant five microelectrode arrays in three nodes of the macaque frontoparietal grasp network. R. N. TIEN*; A. B. SCHWARTZ. *Univ. of Pittsburgh.*

4:00 DD4 **430.24** ● A Utah Array based acute microelectrode array for intra-operative recordings from human cortex. G. PALIS*; R. BHANDARI; V. NGO; R. FRANKLIN; M. GERHARDT; F. SOLZBACHER. *Blackrock Microsystems, Univ. of Utah.*

1:00 DD5 **430.25** Tissue reaction to the neural probes implanted into the rat brain: A transcriptome analysis. E. V. DIAS*; J. D. MACHADO; R. PANEPUCCI; R. COVOLAN; F. CENDES; I. T. LOPES-CENDES; A. S. VIEIRA. *State Univ. of Campinas - Unicamp, CTI Renato Archer.*

POSTER

431. Computational Tools for Neuronal Mapping, Activity, and Networks

Theme I – Techniques

Mon. 1:00 PM – *McCormick Place, Hall A*

1:00 DD6 **431.01** EXTRACT: Automated cell extraction for large-scale neural calcium imaging based on a framework of robust statistics. H. INAN*; T. TASCI; C. SCHMUCKERMAIR; B. AHANONU; O. HERNANDEZ; M. A. ERDOGDU; M. J. SCHNITZER. *Stanford Univ., Univ. of Toronto, Stanford Univ. Dept. of Biol.*

2:00 DD7 **431.02** ● Automatically delineating anatomic regions and mapping cell populations in mouse brain. N. J. O'CONNOR*; B. S. EASTWOOD; P. J. ANGSTMAN; N. D. LIESE; C. S. GERFEN; H. L. KESSLER; M. GULENKO; C. R. GERFEN; J. R. GLASER. *MBF Biosci., Natl. Inst. of Mental Hlth.*

3:00 DD8 **431.03** Automatic segmentation and detection of neuronal cell types from serial-two photon obtained whole-brain mouse images using U-Net. C. ELOWSKY*; J. PALMER; K. UMADEVI VENKATARAJU. *Cold Spring Harbor Lab., Cold Spring Harbor Lab.*

4:00 DD9 **431.04** ● A neuronal dynamic clamp system for improving action potential recording in human stem cell derived neurons. M. W. NOWAK*; B. K. PANAMA; B. FRANKS; L. KORBEL; R. L. RASMUSSON; G. C. L. BETT. *Cytocybernetics Inc., SUNY Buffalo.*

1:00 DD10 **431.05** Connectivity analysis of multielectrode data from simulated CPG and real neural systems using a stochastic framework. M. ABOLFATH-BEYGI; T. D. SANGER; S. F. GISZTER*. *USC, USC, Drexel Univ. Col. of Med.*

2:00 DD11 **431.06** Rigbox: An open-source toolbox for probing neurons and behavior. J. BHAGAT*; M. J. WELLS; A. J. PETERS; K. D. HARRIS; M. CARANDINI; C. P. BURGESS. *Univ. Col. London, Deepmind.*

3:00 DD12 **431.07** BehaveNet: Behavioral video embedding and neural analysis toolbox. E. BATTY; M. R. WHITEWAY*; S. SAXENA; D. BIDERMAN; T. ABE; S. MUSALL; W. GILLIS; J. E. MARKOWITZ; A. K. CHURCHLAND; S. R. DATTA; S. LINDERMAN; L. PANINSKI. *Columbia Univ., Cold Spring Harbor Lab., Harvard Med. Sch., Harvard Med. Sch.*

4:00 DD13 **431.08** Localized semi-nonnegative matrix factorization (LocaNMF) for widefield calcium imaging data. S. SAXENA*; I. KINSELLA; S. MUSALL; J. MESZAROS; D. N. THIBODEAUX; S. H. KIM; J. P. CUNNINGHAM; E. M. HILLMAN; A. K. CHURCHLAND; L. M. PANINSKI. *Columbia Univ., Cold Spring Harbor Lab., Columbia Univ., Columbia Univ., Columbia Univ.*

1:00 DD14 **431.09** Cortex-wide activity during task learning reveals increasing engagement of parietal and frontal areas during decision-making. S. MUSALL*; S. GLUF; H. MOHAN; X. AN; Z. HUANG; A. K. CHURCHLAND. *Cold Spring Harbor Lab.*

2:00 DD15 **431.10** From artificial to biological neural networks: How machine learning facilitates simulation of nonlinear synaptic dynamics in large-scale models. D. J. PHAM*; J. C. BOUTEILLER; G. J. YU; D. SONG; T. W. BERGER. *USC, USC, USC.*

3:00 DD16 **431.11** A numerical approach to calculating LFPs in multi-scale neural network models. C. S. BINGHAM; C. GIRARD; J. PAKNAHAD; D. SONG; J. C. BOUTEILLER*; G. LAZZI; T. W. BERGER. *USC, USC, USC, USC.*

4:00 DD17 **431.12** Towards synaptic plasticity in a computational, large-scale network of hippocampus: An investigation of spike-timing dependent plasticity models. Z. Z. CHOU*; G. J. YU; T. W. BERGER. *USC, USC.*

Mon. PM

1:00 DD18 **431.13** Computational modeling of somatic calcium release due to cholinergic modulation in CA1 pyramidal cells. A. MERGENTHAL*; J. BOUTEILLER; T. BERGER. *USC.*

2:00 DD19 **431.14** A large-scale neuronal network model of the trisynaptic pathway of rat hippocampus. G. J. YU*; J. C. BOUTEILLER; D. SONG; T. W. BERGER. *USC.*

3:00 DD20 **431.15** NTracer2: An ImageJ/Fiji plug-in for multispectral neuronal tracing and annotation in densely labeled brains. L. A. WALKER*; H. CHENG; A. DIZAJI; F. Y. SHEN; Y. LI; M. CHEN; D. CAI. *The Univ. of Michigan, The Univ. of Michigan, The Univ. of Michigan.*

4:00 DD21 **431.16** ● Toward high-throughput, non-invasive seizure detection using piezoelectric motion sensors. D. HUFFMAN*; F. DUQUE QUICENO; S. CARRIZOSA; A. AJWAD; J. WANG; E. JOHNSON; K. HARGIS-STAGGS; K. DONOHUE; B. F. O'HARA; B. BAUER; E. BLALOCK; S. SUNDERAM. *Univ. of Kentucky, Univ. of Kentucky, Univ. of Kentucky, Signal Solutions, LLC, Univ. of Kentucky, Univ. of Kentucky.*

1:00 DD22 **431.17** Software automation for research and training in neural engineering. S. S. NAIR*; T. BANKS; B. LATIMER; Z. CHEN; Z. LYU; Z. CHEN; D. DOPP; A. FOTOOHIGHIAM; P. CALYAM; T. JOSHI; D. XU. *Univ. of Missouri Columbia, Univ. of Missouri, Univ. of Missouri, Rock Bridge High Sch., Univ. of Missouri, Univ. of Missouri.*

POSTER

432. Software Tools: Analysis II

Theme I – Techniques

Mon. 1:00 PM – *McCormick Place, Hall A*

1:00 DD23 **432.01** Enabling data reproducibility with open science chain. S. SIVAGNANAM*; V. NANDIGAM; K. LIN; S. SAKAI. *UCSD.*

● Indicated a real or perceived conflict of interest, see page 150 for details.
▲ Indicates a high school or undergraduate student presenter.
* Indicates abstract's submitting author

2:00 DD24 **432.02** NIH funded nitrc's triad of services: Software, data, compute. D. N. KENNEDY*; C. HASELGROVE; N. PREUSS. *U. Massachusetts Med., Univ. of Massachusetts Med. Sch., Preuss Enterprises.*

3:00 DD25 **432.03** Schol-AR an augmented reality platform for scientific communication and data visualization. T. ARD*; A. W. TOGA. *USC Stevens Neuroimaging and Informatics Inst.*

4:00 DD26 **432.04** Neurodata without borders: Neurophysiology as a cross-species standard for electrocorticography. B. K. DICHTER*; M. DOUGHERTY; V. BARATHAM; K. NASIOTIS; A. TRITT; O. RUEBEL; E. F. CHANG; K. E. BOUCHARD. *Lawrence Berkeley Natl. Labs, Lawrence Berkeley Natl. Labs, UC Berkeley, Montreal Neurolog. Inst., Lawrence Berkeley Natl. Lab., UCSF, UCSF.*

1:00 DD27 **432.05** Canonical pipelines for neurophysiology in DataJoint. S. SHEN; T. T. NGUYEN; D. YATSENKO*; E. Y. WALKER; J. REIMER; A. S. TOLIAS; Z. V. GUO; H. INAGAKI; M. N. ECONOMO; S. A. HIRES; J. YU; N. LI; K. SVOBODA. *Vathes LLC, Baylor Col. of Med., HHMI / Janelia Farm Res. Campus.*

2:00 DD28 **432.06** How to collect genuine TEPs: A graphical user interface to control data quality in real-time. S. CASAROTTO*; M. FECCHIO; S. PARMIGIANI; S. SARASSO; C. C. DERCHI; A. MAZZA; A. VIGANÒ; T. NIEUS; M. MASSIMINI; M. ROSANOVA. *Univ. of Milan.*

3:00 DD29 **432.07** Delineate: A deep learning toolbox for neuroscientists. K. M. KUNTZELMAN*; J. M. WILLIAMS; A. SAMAL; P. K. RAO; M. R. JOHNSON. *Univ. of Nebraska - Lincoln, Univ. of Nebraska - Lincoln, Univ. of Nebraska-Lincoln.*

4:00 DD30 **432.08** A low-cost fast scan cyclic voltammetry system for measurement of striatal dopamine concentration in behaving rats. R. RIAZ; M. HAZIQ; A. AYYAZ; S. ZAIDI; M. KOCATURK*. *Istanbul Medipol Univ., Istanbul Medipol Univ.*

1:00 DD31 **432.09** V-NeuroStack: 3-D time stacks for finding patterns in spontaneous activity of neurons in mouse brain slice. A. G. NAIK*; R. V. KENYON; T. BERGER-WOLF; B. IBRAHIM; D. A. LLANO. *Univ. of Illinois At Chicago, Univ. of Illinois at Chicago, Univ. of Illinois at Urbana Champaign.*

2:00 DD32 **432.10** Birdsong syllable recognition with sparse spike sequence representations. L. E. S. TAVARES*; D. Z. JIN. *Pennsylvania State Univ.*

3:00 DD33 **432.11** WAAVES+: An environment- and animal-agnostic automated ultrasonic vocalization scoring tool. C. L. DUVAUCHELLE*; R. SNYDER; K. ABER; N. MITTAL; C. CERVANTES; J. BAILEY; E. J. PARK; W. T. MADDOX. *Univ. of Texas, Cornerstone Res. Group, ZS Mgmt. Consulting, Univ. of Texas, CD&SC, LLC.*

4:00 DD34 **432.12** Open-source classification of rodent sleep states with a convolutional neural network. Z. K. BARGER*; C. G. FRYE; D. LIU; Y. DAN; K. E. BOUCHARD. *UC Berkeley, UC Berkeley, UC Berkeley.*

1:00 DD35 **432.13** Automatic and qualitative scoring of interlocking pentagon drawing test based on U-Net and mobile sensor data for a cognitive screening of older adults with Parkinson's disease. I. PARK*; S. U. MARWAT; I. A. WAHLA; S. KAMAL; U. LEE. *Hallym Univ.*

2:00 DD36 **432.14** A standardized framework for sorting, analysis, and evaluation of extracellular recordings. C. L. HURWITZ*; A. P. BUCCINO; J. MAGLAND; K. Z. GERLEI; M. F. NOLAN; M. H. HENNIG. *Univ. of Edinburgh, Univ. of Oslo, Flatiron Inst., Univ. Edinburgh, Edinburgh Univ.*

3:00 DD37 **432.15** Multivariate phase coupling across brain regions. J. ORELLANA*; N. KLEIN; S. L. BRINCAT; E. K. MILLER; R. E. KASS. *Carnegie Mellon Univ., MIT, Massachusetts Inst. Technol.*

4:00 DD38 **432.16** Software for extracting interpretable components in ensemble neural activity from multi-channel brain recordings. S. MACKESEY*; F. T. SOMMER. *Univ. of California Berkeley, Helen Wills Neurosci. Inst.*

1:00 DD39 **432.17** ● JRCLUST: Toward comparing spike-sorting approaches for high-density extracellular electrophysiology. A. C. LIDDELL*, Jr; N. G. CLACK; B. KIMMEL. *Vidrio Technologies.*

2:00 DD40 **432.18** Machine-learning driven approach for the analysis of calcium spatio-temporal maps. W. LEIGH; S. A. BAKER*. *Univ. of Nevada, Reno, Univ. of Nevada Reno.*

3:00 DD41 **432.19** A feature extraction method for noisy electrophysiology data. E. M. JOHNSON*; W. L. KATH. *Northwestern Univ., Northwestern Univ.*

4:00 DD42 **432.20** Neuronal population coding: A new algorithm to discriminate stimuli according to the labeled line hypothesis. E. A. SATUVUORI; T. KREUZ*. *Univ. of Florence, Inst. for Complex Systems, MOVE Res. Institute, Dept. of Human Movement Sci., Inst. for Complex Systems.*

1:00 DP14/DD43 **432.21** (Dynamic Poster) Adaptive platform for online characterization of neural data. A. DRAELOS*; M. NIKITCHENKO; E. E. THOMSON; E. PNEVMATIKAKIS; A. GIOVANNUCCI; E. A. NAUMANN; J. M. PEARSON. *Duke Univ., Duke Univ., Flatiron Institute, Simons Fndn., Univ. of North Carolina.*

1:00 DP15/DD44 **432.22** (Dynamic Poster) The IBL data architecture: Tools for storing and accessing diverse datasets collected at multiple sites. N. BONACCHI; G. A. CHAPUIS; A. K. CHURCHLAND; K. D. HARRIS*; C. ROSSANT; O. WINTER; M. J. WELLS; T. IBL COLLABORATION. *Champalimaud Ctr. for the Unknown, Univ. Col. London, Cold Spring Harbor Lab., Champalimaud Inst. for the Unknown.*

3:00 DD45 **432.23** The IBL data architecture: DataJoint pipeline. S. SHEN*; M. SASAKI; A. E. URAI; E. Y. WALKER; C. A. TURNER; O. WINTER; N. BONACCHI; C. ROSSANT; G. A. CHAPUIS; M. J. WELLS; D. YATSENKO; A. K. CHURCHLAND; K. D. HARRIS; . IBL COLLABORATION. *Vathes LLC, Baylor Col. of Med., Cold Spring Harbor Lab., Champalimaud Res., Univ. Col. London.*

POSTER

433. Novel Approaches in Neuromodulation II

Theme I – Techniques

Mon. 1:00 PM – *McCormick Place, Hall A*

1:00 DD46 **433.01** Behavioral and physiological measures of stress in the head-fixed method combined with the air-lifted platform using a mouse model. K. JUCZEWSKI*; J. KOUSSA; A. KESNER; D. M. LOVINGER. *NIH.*

2:00 DD47 **433.02** Smartphone controlled optofluidic device with replaceable Lego drug cartridges for chronic wireless *in vivo* pharmacology and optogenetics. R. QAZI; A. M. GOMEZ; D. C. CASTRO; Z. ZOU; J. SIM; Y. XIONG; J. ABDO; C. KIM; A. ANDERSON; F. LOHNER; S. BYUN; B. LEE; K. JANG; J. XIAO; M. R. BRUCHAS; J. JEONG*. *KAIST, Univ. of Colorado, Washington Univ. Sch. of Med., Univ. of Washington, ETRI, KIST, DGIST.*

● Indicated a real or perceived conflict of interest, see page 150 for details.
▲ Indicates a high school or undergraduate student presenter.
* Indicates abstract's submitting author

3:00 DD48 **433.03** Effects of low intensity focused ultrasound on motor cortex excitability in human. K. S. CHEN*; A. FOMENKO; J. SARAVANAMUTTU; M. EL-BABA; J. NANKOO; A. M. LOZANO; R. CHEN. *Natl. Taiwan Univ. Hosp. Hsin-Chu Br., Krembil Res. Inst., Krembil Res. Inst., Toronto Western Hosp. Rm 4-431 West, Toronto Western Hosp.*

4:00 DD49 **433.04** Non-invasive, receptor-specific, millimetre-precision manipulation of brain circuits for neuropsychiatric disorders. A. SHAH*; M. S. OZDAS; P. M. JOHNSON; N. PATEL; M. MARKS; T. YASAR; W. VON DER BEHRENS; S. R. SIRSI; M. F. YANIK. *ETH Zürich/Institute of Neuroinformatics, UT Dallas.*

1:00 DD50 **433.05** Magnetoelectric nanoparticles cobalt ferrite-barium titanate ($CoFe_2O_4$-$BaTiO_3$) for non invasive brain stimulation. T. NGUYEN*; Z. VRIESMAN; P. ANDREWS; S. MASOOD; T. STEWART; S. KHIZROEV; X. JIN. *Indiana Univ. Sch. of Med., Indiana Univ., IUPUI, FIU, Univ. of Miami.*

2:00 DD51 **433.06** Control of neuronal excitability with radiofrequency magnetic fields. M. HERNANDEZ MORALES*; E. J. BENNER; C. LIU. *Univ. of California Berkeley, Duke Univ.*

3:00 DD52 **433.07** ● A fully implantable optofluidic cuff system for wireless optogenetic and pharmacological neuromodulation of peripheral nerves. A. D. MICKLE*; Y. ZHANG; P. GUTRUF; L. MCILVRIED; J. GOLDEN; J. G. GRAJALES-REYES; Y. HUANG; J. A. ROGERS; R. W. GEREAU, IV. *Washington Univ. Sch. of Med., Univ. of Missouri, Univ. of Arizona, Northwestern, Washington Univ. Sch. of Med.*

4:00 DD53 **433.08** Retrograde gene transfer efficiency and inflammatory response of two types of lentiviral vectors in the motor cortex input system of nonhuman primates and rodents. Y. OTSUKA; H. TSUGE; S. UEZONO; S. TANABE; M. FUJIWARA; M. MIWA; S. KATO; K. NAKAMURA; K. KOBAYASHI; K. INOUE; M. TAKADA*. *Primate Res. Institute, Kyoto Univ., Fukushima Med. Univ.*

1:00 DD54 **433.09** The modified adeno associated virus vectors enable neuron specific efficient gene transduction in the primate brain. K. KIMURA*; Y. NAGAI; S. TANABE*; A. ZHENG; M. FUJIWARA; M. NAKANO; T. MINAMIMOTO; K. INOUE; M. TAKADA. *Primate Res. Institute, Kyoto Univ., Natl. Inst. For Quantum and Radiological Sci. and Technol., Japan Sci. and Technol. Agency.*

2:00 DD55 **433.10** A high-speed, bright, red fluorescent voltage sensor to detect neural activity. C. BECK*; Y. GONG. *Duke Univ.*

3:00 DD56 **433.11** AAV-mediated gene transfer targeting colon-innervating sensory neurons. R. GORE*; T. EMAIL; E. MARRON; K. KITTO; M. RIEDL; K. PFLEPSEN; A. KARLEN; S. MCIVOR; C. HONDA; C. FAIRBANKS; L. VULCHANOVA. *Univ. of Minnesota, Macalester Col., Univ. of Minnesota, Univ. of Minnesota, Univ. of Minnesota.*

4:00 DD57 **433.12** Fast magnetogenetics in *Drosophila.* C. SEBESTA*; G. DURET; D. TORRES; C. TZOUANAS; S. TONG; G. BAO; H. DIERICK; J. T. ROBINSON. *Rice Univ., Rice Univ., Baylor Col. of Med.*

1:00 DD58 **433.13** Nanotechnology-driven non-viral modulation of gene expression in the central nervous system enables fundamental and translational studies with minimum alterations to the native tissue and/or cell culture niche. D. ALZATE-CORREA*; W. LAWRENCE; L. ORTEGA; N. HIGUITA-CASTRO; D. GALLEGO-PEREZ*. *The Ohio State Univ.*

2:00 DD59 **433.14** A strategy for cell type-specific CRISPR/Cas9 activation and visualization in mice. A. CRUZ*; J. CAVARETTA; M. PAUKERT. *UT Hlth. San Antonio.*

3:00 DD60 **433.15** Multifunctional polymer-based fibers enable *in vivo* photopharmacology. J. FRANK; M. ANTONINI*; P. CHIANG; A. CANALES; I. C. RICE; P. ANIKEEVA. *Vollum Institute, Oregon Hlth. & Sci. Univ., MIT, Harvard Univ. and MIT, MIT.*

4:00 DD61 **433.16** ● A chemically defined hydrogel substrate promotes accelerated maturation and neurite extension of cortical glutamatergic neurons for high-throughput screening. T. L. SAMPSELL; G. KAUSHIK*; W. D. RICHARDS; K. XU; Z. DU; M. HENDRICKSON; C. S. LEBAKKEN. *Stem Pharm, Inc., BrainXell, Inc.*

1:00 DD62 **433.17** Scaled expansion of pluripotent stem cells in suspension culture followed by direct neural differentiation from 3D cell aggregates. M. DERR; M. AKENHEAD; J. SAGAL; R. NEWMAN; D. KUNINGER. *Thermo Fisher Scientific.*

2:00 DD63 **433.18** Oxygen producing algae permit functional recovery of neuronal activity in *Xenopus laevis under hypoxia.* S. OEZUGUR*; M. N. CHÁVEZ; J. NICKELSEN; L. KUNZ; H. STRAKA. *Dept. Biol. II, Ludwig-Maximilians-University Munich, Germany, Dept. Biol. I, Ludwig-Maximilians-University Munich, Germany.*

3:00 DD64 **433.19** ▲ Efficacy of aged chondroitinase-ABC in degrading perineuronal nets. A. DEAN*; J. H. HARKNESS; B. A. SORG. *Washington State Univ. - Vancouver, Washington State University, Vancouver, Washington State Univ.*

- ● Indicated a real or perceived conflict of interest, see page 150 for details.
- ▲ Indicates a high school or undergraduate student presenter.
- * Indicates abstract's submitting author

Conflict of Interest Statements

The following presenters, signified by a dot (•) in the program, indicated a real or perceived conflict of interest.
Presenters listed without a dot in the program had no financial relationships to disclose.

PRESENTATION NUMBER	STATEMENT
260	**E.B. Margolis:** B. Contracted Research/Research Grant (principal investigator for a drug study, collaborator or consultant and pending and current grants). If you are a PI for a drug study, report that research relationship even if those funds come to an institution.; BlackThorn, Inc.. F. Consulting Fees (e.g., advisory boards); Epiodyne, Inc..
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260.06	**E.M. Avegno:** E. Ownership Interest (stock, stock options, royalty, receipt of intellectual property rights/patent holder, excluding diversified mutual funds); Nicholas Gilpin owns shares in Glauser Life Sciences, Inc., a company with interest in developing and marketing treatments for mental health disorders..
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267.05	**A.T. Mertens:** A. Employment/Salary (full or part-time); University of Nebraska at Omaha. **J.B. Santo:** A. Employment/Salary (full or part-time); University of Nebraska at Omaha. **K. Markopoulou:** A. Employment/Salary (full or part-time); Northshore University HealthSystem, University of Chicago Pritzker School of Medicine. **B.A. Chase:** A. Employment/Salary (full or part-time); University of Nebraska at Omaha.
270.01	**T.D. Prevot:** E. Ownership Interest (stock, stock options, royalty, receipt of intellectual property rights/patent holder, excluding diversified mutual funds); Inventor on a Patent. **G. Li:** E. Ownership Interest (stock, stock options, royalty, receipt of intellectual property rights/patent holder, excluding diversified mutual funds); Inventor on a Patent. **D.E. Knutson:** E. Ownership Interest (stock, stock options, royalty, receipt of intellectual property rights/patent holder, excluding diversified mutual funds); Inventor on a Patent. **J.M. Cook:** E. Ownership Interest (stock, stock options, royalty, receipt of intellectual property rights/patent holder, excluding diversified mutual funds); Inventor on a Patent. **E. Sibille:** E. Ownership Interest (stock, stock options, royalty, receipt of intellectual property rights/patent holder, excluding diversified mutual funds); Inventor on a Patent.
271.02	**T.G. Oliveira:** E. Ownership Interest (stock, stock options, royalty, receipt of intellectual property rights/patent holder, excluding diversified mutual funds); Patent holder - US Patent 9,267,122.
275.04	**L. Wang:** A. Employment/Salary (full or part-time); 10X Genomics. E. Ownership Interest (stock, stock options, royalty, receipt of intellectual property rights/patent holder, excluding diversified mutual funds); 10X Genomics. **F. Meschi:** A. Employment/Salary (full or part-time); 10X Genomics. E. Ownership Interest (stock, stock options, royalty, receipt of intellectual property rights/patent holder, excluding diversified mutual funds); 10X Genomics. **C. Nemec:** A. Employment/Salary (full or part-time); 10X Genomics. E. Ownership Interest (stock, stock options, royalty, receipt of intellectual property rights/patent holder, excluding diversified mutual funds); 10X Genomics. **J. Wang:** A. Employment/Salary (full or part-time); 10X Genomics. E. Ownership Interest (stock, stock options, royalty, receipt of intellectual property rights/patent holder, excluding diversified mutual funds); 10X Genomics. **A. Puleo:** A. Employment/Salary (full or part-time); 10X Genomics. E. Ownership Interest (stock, stock options, royalty, receipt of intellectual property rights/patent holder, excluding diversified mutual funds); 10X Genomics. **P. Shah:** A. Employment/Salary (full or part-time); 10X Genomics. E. Ownership Interest (stock, stock options, royalty, receipt of intellectual property rights/patent holder, excluding diversified mutual funds); 10X Genomics. **B. Olsen:** A. Employment/Salary (full or part-time); 10X Genomics. E. Ownership Interest (stock, stock options, royalty, receipt of intellectual property rights/patent holder, excluding diversified mutual funds); 10X Genomics. **A. Gonzalez:** A. Employment/Salary (full or part-time); 10X Genomics. E. Ownership Interest (stock, stock options, royalty, receipt of intellectual property rights/patent holder, excluding diversified mutual funds); 10X Genomics. **P. Giresi:** A. Employment/Salary (full or part-time); 10X Genomics. E. Ownership Interest (stock, stock options, royalty, receipt of intellectual property rights/patent holder, excluding diversified mutual funds); 10X Genomics. **G. Zheng:** A. Employment/Salary (full or part-time); 10X Genomics. E. Ownership Interest (stock, stock options, royalty, receipt of intellectual property rights/patent holder, excluding diversified mutual funds); 10X Genomics.
276.07	**C. Dong:** A. Employment/Salary (full or part-time); Children's hospital of fudan university.
276.11	**J.L. Rubenstein:** E. Ownership Interest (stock, stock options, royalty, receipt of intellectual property rights/patent holder, excluding diversified mutual funds); Neurona.
277.18	**S.K. Hur:** A. Employment/Salary (full or part-time); Texas A&M University.
278.06	**K. Choi:** A. Employment/Salary (full or part-time); BrainXell. **M.L. Hendrickson:** A. Employment/Salary (full or part-time); BrainXell. **Z. Du:** A. Employment/Salary (full or part-time); BrainXell.
278.07	**J. Richard:** A. Employment/Salary (full or part-time); REPROCELL USA. **I. Silva:** A. Employment/Salary (full or part-time); REPROCELL USA. **L. Ren:** A. Employment/Salary (full or part-time); REPROCELL USA. **M. Honda:** A. Employment/Salary (full or part-time); REPROCELL INC. **Y. Okuda:** A. Employment/Salary (full or part-time); REPROCELL INC. **S. Eminli-Meissner:** A. Employment/Salary (full or part-time); REPROCELL Europe Ltd. **R. Modali:** A. Employment/Salary (full or part-time); REPROCELL USA. E. Ownership Interest (stock, stock options, royalty, receipt of intellectual property rights/patent holder, excluding diversified mutual funds); REPROCELL USA. **M. Rao:** A. Employment/Salary (full or part-time); REPROCELL USA.
278.08	**R.E. Josephson:** A. Employment/Salary (full or part-time); Thermo Fisher Scientific. **J. Sagal:** A. Employment/Salary (full or part-time); Thermo Fisher Scientific. **S. Shin:** A. Employment/Salary (full or part-time); Thermo Fisher Scientific. **M. Derr:** A. Employment/Salary (full or part-time); Thermo Fisher Scientific. **D. Kuninger:** A. Employment/Salary (full or part-time); Thermo Fisher Scientific.
279.04	**J. Hanne:** A. Employment/Salary (full or part-time); Abberior Instruments GmbH.
282.01	**S.A. Neale:** E. Ownership Interest (stock, stock options, royalty, receipt of intellectual property rights/patent holder, excluding diversified mutual funds); Neurexpert Limited.

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284.10	**D. Nagy:** A. Employment/Salary (full or part-time); Biogen. **K. Ennis:** A. Employment/Salary (full or part-time); Biogen. **S. Su:** A. Employment/Salary (full or part-time); Biogen. **R. Gu:** A. Employment/Salary (full or part-time); Biogen. **R. Wei:** A. Employment/Salary (full or part-time); Biogen. **C. Hinckley:** A. Employment/Salary (full or part-time); Biogen. **K. Li:** A. Employment/Salary (full or part-time); Biogen. **B. Gao:** A. Employment/Salary (full or part-time); Biogen. **M. Hajos:** A. Employment/Salary (full or part-time); Biogen. **L.C. Burkly:** A. Employment/Salary (full or part-time); Biogen.
286.04	**T.S. Matharu:** A. Employment/Salary (full or part-time); Aptinyx. E. Ownership Interest (stock, stock options, royalty, receipt of intellectual property rights/patent holder, excluding diversified mutual funds); Aptinyx. **G.D. Morrison:** A. Employment/Salary (full or part-time); Aptinyx. E. Ownership Interest (stock, stock options, royalty, receipt of intellectual property rights/patent holder, excluding diversified mutual funds); Aptinyx. **A.L. Barth:** A. Employment/Salary (full or part-time); Aptinyx. B. Contracted Research/Research Grant (principal investigator for a drug study, collaborator or consultant and pending and current grants). If you are a PI for a drug study, report that research relationship even if those funds come to an institution.; NIA AG051299-01. E. Ownership Interest (stock, stock options, royalty, receipt of intellectual property rights/patent holder, excluding diversified mutual funds); Aptinyx. **C.J. Kelly:** A. Employment/Salary (full or part-time); Aptinyx. E. Ownership Interest (stock, stock options, royalty, receipt of intellectual property rights/patent holder, excluding diversified mutual funds); Aptinyx. **J. Dunning:** E. Ownership Interest (stock, stock options, royalty, receipt of intellectual property rights/patent holder, excluding diversified mutual funds); Aptinyx. **P. Kansara:** E. Ownership Interest (stock, stock options, royalty, receipt of intellectual property rights/patent holder, excluding diversified mutual funds); Aptinyx. **N. Punchard:** A. Employment/Salary (full or part-time); Aptinyx. E. Ownership Interest (stock, stock options, royalty, receipt of intellectual property rights/patent holder, excluding diversified mutual funds); Aptinyx. **A.A. Moghadam:** B. Contracted Research/Research Grant (principal investigator for a drug study, collaborator or consultant and pending and current grants). If you are a PI for a drug study, report that research relationship even if those funds come to an institution.; NIA AG051299-01. **P.K. Stanton:** B. Contracted Research/Research Grant (principal investigator for a drug study, collaborator or consultant and pending and current grants). If you are a PI for a drug study, report that research relationship even if those funds come to an institution.; NIA AG051299-01. F. Consulting Fees (e.g., advisory boards); Aptinyx. **J.R. Moskal:** A. Employment/Salary (full or part-time); Aptinyx. E. Ownership Interest (stock, stock options, royalty, receipt of intellectual property rights/patent holder, excluding diversified mutual funds); Aptinyx. **C.N. Cearley:** A. Employment/Salary (full or part-time); Aptinyx. E. Ownership Interest (stock, stock options, royalty, receipt of intellectual property rights/patent holder, excluding diversified mutual funds); Aptinyx.
286.21	**O. Steward:** E. Ownership Interest (stock, stock options, royalty, receipt of intellectual property rights/patent holder, excluding diversified mutual funds); Axonis Inc.
287.22	**M. Jackson:** A. Employment/Salary (full or part-time); Hesperos, Inc. **J. Rumsey:** A. Employment/Salary (full or part-time); Hesperos, Inc. **C. Long:** A. Employment/Salary (full or part-time); Hesperos, Inc. **J.J. Hickman:** A. Employment/Salary (full or part-time); Hesperos, Inc..
288.14	**F. Frohlich:** E. Ownership Interest (stock, stock options, royalty, receipt of intellectual property rights/patent holder, excluding diversified mutual funds); Pulvinar Neuro LLC.
289.02	**H. Cruces-Solis:** A. Employment/Salary (full or part-time); Boehringer Ingelheim Pharma. **R. Arban:** A. Employment/Salary (full or part-time); Boehringer Ingelheim Pharma. **W. Nissen:** A. Employment/Salary (full or part-time); Boehringer Ingelheim Pharma. **B. Ferger:** A. Employment/Salary (full or part-time); Boehringer Ingelheim Pharma.
289.14	**A. Anticevic:** F. Consulting Fees (e.g., advisory boards); BlackThorn Therapeutics. **J.D. Murray:** F. Consulting Fees (e.g., advisory boards); BlackThorn Therapeutics.
289.18	**E.N. Brown:** E. Ownership Interest (stock, stock options, royalty, receipt of intellectual property rights/patent holder, excluding diversified mutual funds); Massachusetts General Hospital, Masimo Corporation, PASACALL. **P.L. Purdon:** A. Employment/Salary (full or part-time); PASACALL. E. Ownership Interest (stock, stock options, royalty, receipt of intellectual property rights/patent holder, excluding diversified mutual funds); Massachusetts General Hospital, Masimo Corporation, PASACALL.
289.22	**F. Frohlich:** E. Ownership Interest (stock, stock options, royalty, receipt of intellectual property rights/patent holder, excluding diversified mutual funds); Pulvinar Neuro LLC.
289.23	**S.J. Smith:** A. Employment/Salary (full or part-time); Allen Institute for Brain Science. E. Ownership Interest (stock, stock options, royalty, receipt of intellectual property rights/patent holder, excluding diversified mutual funds); SJS is a co-founder of Aratome, LLC, an enterprise that markets array tomography products and services..
289.24	**F. Frohlich:** E. Ownership Interest (stock, stock options, royalty, receipt of intellectual property rights/patent holder, excluding diversified mutual funds); Pulvinar Neuro LLC.
289.27	**N. Upton:** A. Employment/Salary (full or part-time); TRANSPHARMATION LTD. **M.S. Duxon:** A. Employment/Salary (full or part-time); TRANSPHARMATION LTD. **S. Kantor:** A. Employment/Salary (full or part-time); TRANSPHARMATION LTD.
290.18	**D.C. Millard:** A. Employment/Salary (full or part-time); Axion Biosystems, Inc. **A.M. Nicolini:** A. Employment/Salary (full or part-time); Axion Biosystems, Inc. **C.A. Arrowood:** A. Employment/Salary (full or part-time); Axion Biosystems, Inc. **H.B. Hayes:** A. Employment/Salary (full or part-time); Axion Biosystems, Inc. **S.A. Chvatal:** A. Employment/Salary (full or part-time); Axion Biosystems, Inc..
291.04	**T.M. Gilbert:** A. Employment/Salary (full or part-time); Eikonizo Therapeutics, Inc. **F.A. Schroeder:** A. Employment/Salary (full or part-time); Co-founder Eikonizo Therapeutics, Inc., employee Eikonizo Therapeutics, Inc.. E. Ownership Interest (stock, stock options, royalty, receipt of intellectual property rights/patent holder, excluding diversified mutual funds); Intellectual property (IP), portion of IP licensed. **C. Wang:** E. Ownership Interest (stock, stock options, royalty, receipt of intellectual property rights/patent holder, excluding diversified mutual funds); Intellectual Property (IP), portion of IP licensed. **J. Hooker:** E. Ownership Interest (stock, stock options, royalty, receipt of intellectual property rights/patent holder, excluding diversified mutual funds); Intellectual Property (IP), portion of IP licensed, Co-founder Eikonizo Therapeutics, Inc.. F. Consulting Fees (e.g., advisory boards); Psy Therapeutics, Inc..
292.08	**R. Chang:** E. Ownership Interest (stock, stock options, royalty, receipt of intellectual property rights/patent holder, excluding diversified mutual funds); INTelico Therapeutics.
293.11	**S.D. Waksal:** Other; Consultant to Meira Gene Therapy and was it's founder., Working with and am the founder of Equilibre Neuroscience, Visiting Fellow at the Mind Brain Institute And the Appel, Alzheimer's Research Institute, Cornell Weil medical. **B. Stevens:** Other; Scientific Advisory Board of annexon Biosciences and Abelian (also founder of later). **G.A. Petsko:** Other; I am on the Scientific Advisory Boards of MeiraGTx, Proclara Biosciences, QR Pharma and Amicus Therapeutics. As such, I am compensated both monetarily and in the form of stock options. **S.A. Small:** Other; Scientific Advisory Board of Meira GTx.
293.19	**W.L. Klein:** E. Ownership Interest (stock, stock options, royalty, receipt of intellectual property rights/patent holder, excluding diversified mutual funds); Acumen.

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295.01	**S. Frey:** A. Employment/Salary (full or part-time); Rogue Research Inc.
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296.09	**C. Harrington:** A. Employment/Salary (full or part-time); TauRx Therapeutics Ltd. **C.M. Wischik:** E. Ownership Interest (stock, stock options, royalty, receipt of intellectual property rights/patent holder, excluding diversified mutual funds); TauRx Therapeutics Ltd..
298.09	**A.D. Sharma:** A. Employment/Salary (full or part-time); Full. E. Ownership Interest (stock, stock options, royalty, receipt of intellectual property rights/patent holder, excluding diversified mutual funds); Stock options. **L. McCoy:** A. Employment/Salary (full or part-time); Full. E. Ownership Interest (stock, stock options, royalty, receipt of intellectual property rights/patent holder, excluding diversified mutual funds); Stock options. **E. Jacobs:** A. Employment/Salary (full or part-time); Full. **M. Terral:** A. Employment/Salary (full or part-time); Full. **L. Curley:** A. Employment/Salary (full or part-time); Full. E. Ownership Interest (stock, stock options, royalty, receipt of intellectual property rights/patent holder, excluding diversified mutual funds); Stock options, Patent holder. **M.J. Moore:** A. Employment/Salary (full or part-time); part-time. E. Ownership Interest (stock, stock options, royalty, receipt of intellectual property rights/patent holder, excluding diversified mutual funds); Stock options, Patent holder.
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299.23	**B.A. Jenkins:** A. Employment/Salary (full or part-time); Eli Lilly & Company. E. Ownership Interest (stock, stock options, royalty, receipt of intellectual property rights/patent holder, excluding diversified mutual funds); Eli Lilly & Company. **T.A. Day:** A. Employment/Salary (full or part-time); Eli Lilly & Company. E. Ownership Interest (stock, stock options, royalty, receipt of intellectual property rights/patent holder, excluding diversified mutual funds); Eli Lilly & Company. **D.C. Airey:** A. Employment/Salary (full or part-time); Eli Lilly & Company. E. Ownership Interest (stock, stock options, royalty, receipt of intellectual property rights/patent holder, excluding diversified mutual funds); Eli Lilly & Company. **F.D. Tingley:** A. Employment/Salary (full or part-time); Eli Lilly & Company. E. Ownership Interest (stock, stock options, royalty, receipt of intellectual property rights/patent holder, excluding diversified mutual funds); Eli Lilly & Company. **L.K. Thompson:** A. Employment/Salary (full or part-time); Eli Lilly & Company. E. Ownership Interest (stock, stock options, royalty, receipt of intellectual property rights/patent holder, excluding diversified mutual funds); Eli Lilly & Company. **M.L. Hayashi:** A. Employment/Salary (full or part-time); Eli Lilly & Company. E. Ownership Interest (stock, stock options, royalty, receipt of intellectual property rights/patent holder, excluding diversified mutual funds); Eli Lilly & Company.
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300.09	**N.W. Gilpin:** E. Ownership Interest (stock, stock options, royalty, receipt of intellectual property rights/patent holder, excluding diversified mutual funds); Glauser Life Sciences, Inc..
300.22	**L. Siebold:** C. Other Research Support (receipt of drugs, supplies, equipment or other in-kind support); West Therapeutic Development. **S. Ashwal:** C. Other Research Support (receipt of drugs, supplies, equipment or other in-kind support); West Therapeutic Development.
301.02	**Z. Koci:** A. Employment/Salary (full or part-time); Integra LifeSciences (Plainsboro, NJ, USA) is partially funding the porject.. B. Contracted Research/Research Grant (principal investigator for a drug study, collaborator or consultant and pending and current grants). If you are a PI for a drug study, report that research relationship even if those funds come to an institution.; This work was co-founded by Science Foundation Ireland and Integra Lifesciences (Plainsboro, NJ, USA) through TP-27-1846B1 as part of the Advanced Materials and Bioengineering Research Centre.. C. Other Research Support (receipt of drugs, supplies, equipment or other in-kind support); In kind dupport was received from Integra LifeSciences (Plainsboro, NJ, USA) in the form of raw materials and technical knowhow. **A.J. Hibbitts:** A. Employment/Salary (full or part-time); Alan Hibbitts is part-funded by Integra LifeSciences. C. Other Research Support (receipt of drugs, supplies, equipment or other in-kind support); In kind dupport was supplied from Integra LifeSciences (Plainsboro, NJ, USA). **S.L. Kneafsey:** A. Employment/Salary (full or part-time); Integra LifeSciences (Plainsboro, NJ, USA) is partially funding the porject.. B. Contracted Research/Research Grant (principal investigator for a drug study, collaborator or consultant and pending and current grants). If you are a PI for a drug study, report that research relationship even if those funds come to an institution.; This work was co-founded by Science Foundation Ireland and Integra Lifesciences (Plainsboro, NJ, USA) through TP-27-1846B1 as part of the Advanced Materials and Bioengineering Research Centre. C. Other Research Support (receipt of drugs, supplies, equipment or other in-kind support); In kind dupport was received from Integra LifeSciences (Plainsboro, NJ, USA) in the form of raw materials and technical knowhow. **L. Zilic:** A. Employment/Salary (full or part-time); Integra LifeSciences (Plainsboro, NJ, USA) is partially funding the porject.. B. Contracted Research/Research Grant (principal investigator for a drug study, collaborator or consultant and pending and current grants). If you are a PI for a drug study, report that research relationship even if those funds come to an institution.; This work was co-founded by Science Foundation Ireland and Integra Lifesciences (Plainsboro, NJ, USA) through TP-27-1846B1 as part of the Advanced Materials and Bioengineering Research Centre. **C.T. Buckley:** A. Employment/Salary (full or part-time); Integra LifeSciences (Plainsboro, NJ, USA) is partially funding the porject.. B. Contracted Research/Research Grant (principal investigator for a drug study, collaborator or consultant and pending and current grants). If you are a PI for a drug study, report that research relationship even if those funds come to an institution.; This work was co-founded by Science Foundation Ireland and Integra Lifesciences (Plainsboro, NJ, USA) through TP-27-1846B1 as part of the Advanced Materials and Bioengineering Research Centre.. C. Other Research Support (receipt of drugs, supplies, equipment or other in-kind support); In kind dupport was received from Integra LifeSciences (Plainsboro, NJ, USA) in the form of raw materials and technical knowhow. **S.J. Archibald:** A. Employment/Salary (full or part-time); Simon Archibald is employed by Integra LifeSciences. E. Ownership Interest (stock, stock options, royalty, receipt of intellectual property rights/patent holder, excluding diversified mutual funds); Integra LifeSciences. **F.J. O'Brien:** B. Contracted Research/Research Grant (principal investigator for a drug study, collaborator or consultant and pending and current grants). If you are a PI for a drug study, report that research relationship even if those funds come to an institution.; This work was co-founded by Science Foundation Ireland and Integra Lifesciences (Plainsboro, NJ, USA) through TP-27-1846B1 as part of the Advanced Materials and Bioengineering Research Centre.. C. Other Research Support (receipt of drugs, supplies, equipment or other in-kind support); In kind dupport was received from Integra LifeSciences (Plainsboro, NJ, USA) in the form of raw materials and technical knowhow..
302.12	**J.B. Cook:** A. Employment/Salary (full or part-time); Dignify Therapeutics. **R. Piatt:** A. Employment/Salary (full or part-time); Dignify Therapeutics. **L. Marson:** E. Ownership Interest (stock, stock options, royalty, receipt of intellectual property rights/patent holder, excluding diversified mutual funds); Dignify Therapeutics.
302.22	**J. Vilchis Villa:** E. Ownership Interest (stock, stock options, royalty, receipt of intellectual property rights/patent holder, excluding diversified mutual funds); IMSS. **D. Parra Villamar:** E. Ownership Interest (stock, stock options, royalty, receipt of intellectual property rights/patent holder, excluding diversified mutual funds); IMSS. **A. Ibarra:** E. Ownership Interest (stock, stock options, royalty, receipt of intellectual property rights/patent holder, excluding diversified mutual funds); Antonio Ibarra. **R.S. García:** E. Ownership Interest (stock, stock options, royalty, receipt of intellectual property rights/patent holder, excluding diversified mutual funds); IMSS.
304.01	**D. Lorrain:** A. Employment/Salary (full or part-time); Pipeline Therapeutics. E. Ownership Interest (stock, stock options, royalty, receipt of intellectual property rights/patent holder, excluding diversified mutual funds); Pipeline Therapeutics. **M. Poon:** A. Employment/Salary (full or part-time); Full, Pipeline Therapeutics. **K.J. Stebbins:** A. Employment/Salary (full or part-time); Pipeline Therapeutics. **G. Edu:** A. Employment/Salary (full or part-time); Pipeline Therapeutics. **A. Broadhead:** A. Employment/Salary (full or part-time); Pipeline Therapeutics. **J. Seiders:** A. Employment/Salary (full or part-time); Pipeline Therapeutics. **J. Roppe:** A. Employment/Salary (full or part-time); Pipeline Therapeutics.
304.04	**C. King:** E. Ownership Interest (stock, stock options, royalty, receipt of intellectual property rights/patent holder, excluding diversified mutual funds); Restor-Ear Devices LLC, Lucent Medical Systems. **S. Rajguru:** E. Ownership Interest (stock, stock options, royalty, receipt of intellectual property rights/patent holder, excluding diversified mutual funds); Restor-Ear Devices LLC.
304.10	**D. Keppeler:** A. Employment/Salary (full or part-time); Photonik Inkubator GmbH, OptoGenTech GmbH.
305.02	**S. Ceballo:** A. Employment/Salary (full or part-time); Centre National de la Recherche Scientifique (CNRS). **Z. Piwkowska:** A. Employment/Salary (full or part-time); Pasteur Institute. **J. Bourg:** A. Employment/Salary (full or part-time); Centre National de la Recherche Scientifique (CNRS). **A. Daret:** A. Employment/Salary (full or part-time); Centre National de la Recherche Scientifique (CNRS). **B. Bathellier:** A. Employment/Salary (full or part-time); Centre National de la Recherche Scientifique (CNRS).
305.03	**C.D. Heelan:** Other; Connexon Systems.
307.16	**G.R. Heller:** A. Employment/Salary (full or part-time); The Allen Institute.
308.09	**A. Alvarez-Buylla:** E. Ownership Interest (stock, stock options, royalty, receipt of intellectual property rights/patent

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	holder, excluding diversified mutual funds); Co-founder and serves on the Scientific Advisory Board of Neurona Therapeutics.
310.15	**C. Morrow:** A. Employment/Salary (full or part-time); HHMI Janelia Research Campus. **T. Oram:** A. Employment/Salary (full or part-time); HHMI Janelia Research Campus. **P. Breads:** A. Employment/Salary (full or part-time); HHMI Janelia Research Campus. **G. Card:** A. Employment/Salary (full or part-time); HHMI Janelia Research Campus.
311.07	**A. De Luca:** A. Employment/Salary (full or part-time); Movendo Technology srl. **C. Sanfilippo:** A. Employment/Salary (full or part-time); Movendo Technology srl. **V. Squeri:** A. Employment/Salary (full or part-time); Movendo Technology srl. **J. Saglia:** A. Employment/Salary (full or part-time); Movendo Technology srl.
312.12	**A. Oliviero:** E. Ownership Interest (stock, stock options, royalty, receipt of intellectual property rights/patent holder, excluding diversified mutual funds); patents and stock ownership in the start-up company Neurek SL. **G. Foffani:** E. Ownership Interest (stock, stock options, royalty, receipt of intellectual property rights/patent holder, excluding diversified mutual funds); patents and stock ownership in the start-up company Neurek SL.
313.02	**K.V. Shenoy:** F. Consulting Fees (e.g., advisory boards); Neuralink Inc., consultant; Cognescent, Scientific Advisory Board; Heal, Scientific Advisory Board.
313.08	**S.H. Scott:** E. Ownership Interest (stock, stock options, royalty, receipt of intellectual property rights/patent holder, excluding diversified mutual funds); BKIN Technologies Ltd.
313.21	**K.V. Shenoy:** F. Consulting Fees (e.g., advisory boards); Neuralink, CTRL-Labs Inc., MIND-X Inc., Inscopix Inc., Heal Inc..
313.22	**K.V. Shenoy:** F. Consulting Fees (e.g., advisory boards); Neuralink, CTRL-Labs, MIND-X, HEAL.
314.02	**E.J. Aarnoutse:** C. Other Research Support (receipt of drugs, supplies, equipment or other in-kind support); Funded by the Dutch Technology foundation STW with co-funding from Medtronic Europe. **E.G.M. Pels:** C. Other Research Support (receipt of drugs, supplies, equipment or other in-kind support); Funded by the Dutch Technology foundation STW with co-funding from Medtronic Europe. **N.F. Ramsey:** C. Other Research Support (receipt of drugs, supplies, equipment or other in-kind support); Funded by the Dutch Technology foundation STW with co-funding from Medtronic Europe.
314.04	**J.M. Carmena:** A. Employment/Salary (full or part-time); Iota Biosciences. E. Ownership Interest (stock, stock options, royalty, receipt of intellectual property rights/patent holder, excluding diversified mutual funds); Iota Biosciences. **M.M. Maharbiz:** A. Employment/Salary (full or part-time); Iota Biosciences. E. Ownership Interest (stock, stock options, royalty, receipt of intellectual property rights/patent holder, excluding diversified mutual funds); Iota Biosciences.
314.05	**S. Jiang:** A. Employment/Salary (full or part-time); The Bradley Department of Electrical and Computer Engineering, Virginia Tech. **X. Jia:** A. Employment/Salary (full or part-time); The Bradley Department of Electrical and Computer Engineering, Virginia Tech.
314.08	**C.F. Dunlap:** A. Employment/Salary (full or part-time); Battelle Memorial Institute. **S.C. Colachis:** A. Employment/Salary (full or part-time); Battelle Memorial Institute. **N.V. Annetta:** A. Employment/Salary (full or part-time); Battelle Memorial Institute. **D.A. Friedenberg:** A. Employment/Salary (full or part-time); Battelle Memorial Institute. B. Contracted Research/Research Grant (principal investigator for a drug study, collaborator or consultant and pending and current grants). If you are a PI for a drug study, report that research relationship even if those funds come to an institution.; DARPA-PA-18-02-04-INI-FP-006. **P.D. Ganzer:** A. Employment/Salary (full or part-time); Battelle Memorial Institute. **G. Sharma:** A. Employment/Salary (full or part-time); Battelle Memorial Institute. **M.A. Bockbrader:** A. Employment/Salary (full or part-time); The Ohio State University. B. Contracted Research/Research Grant (principal investigator for a drug study, collaborator or consultant and pending and current grants). If you are a PI for a drug study, report that research relationship even if those funds come to an institution.; DARPA-PA-18-02-04-INI-FP-006.
314.12	**J. Rickert:** A. Employment/Salary (full or part-time); CEO of CorTec. **S. Martin:** A. Employment/Salary (full or part-time); CEO and CTO of CorTec. **C. Stolle:** A. Employment/Salary (full or part-time); Employee of CorTec. **F. Wenzel:** A. Employment/Salary (full or part-time); Employee of CorTec. **O. Brunner:** A. Employment/Salary (full or part-time); Employee of CorTec. **J. Holub:** A. Employment/Salary (full or part-time); Employee of CorTec. **N. Grigat:** A. Employment/Salary (full or part-time); Employee of CorTec. **M. Obert:** A. Employment/Salary (full or part-time); Employee of CorTec. **M. Leistner:** A. Employment/Salary (full or part-time); Employee of CorTec. **D. Grieshaber:** A. Employment/Salary (full or part-time); Employee of CorTec. **J. Hummel:** A. Employment/Salary (full or part-time); Employee of CorTec. **S. Rieger:** A. Employment/Salary (full or part-time); Employee of CorTec.
314.13	**M. Schuettler:** A. Employment/Salary (full or part-time); CEO and CTO of CorTec. **S. Bensch:** A. Employment/Salary (full or part-time); Employee of CorTec. **J. Rickert:** A. Employment/Salary (full or part-time); CEO of CorTec. **C. Hanser:** A. Employment/Salary (full or part-time); Employee of CorTec. **C. Henle:** A. Employment/Salary (full or part-time); Employee of CorTec. **A. Marx:** A. Employment/Salary (full or part-time); Employee of CorTec.
314.21	**B. Crofts:** A. Employment/Salary (full or part-time); Ripple Neuro. **A. Wilder:** A. Employment/Salary (full or part-time); Ripple Neuro. E. Ownership Interest (stock, stock options, royalty, receipt of intellectual property rights/patent holder, excluding diversified mutual funds); Ripple Neuro. **D. McDonnall:** A. Employment/Salary (full or part-time); Ripple Neuro. E. Ownership Interest (stock, stock options, royalty, receipt of intellectual property rights/patent holder, excluding diversified mutual funds); Ripple Neuro. **S. Hiatt:** A. Employment/Salary (full or part-time); Ripple Neuro. E. Ownership Interest (stock, stock options, royalty, receipt of intellectual property rights/patent holder, excluding diversified mutual funds); Ripple Neuro.
315.14	**K.V. Shenoy:** F. Consulting Fees (e.g., advisory boards); K.V.S. is a consultant to Neuralink Corp. and on the Scientific Advisory Boards of CTRL-Labs Inc., MIND-X Inc., Inscopix Inc. and Heal Inc. These entities did not support this work. **J.M. Henderson:** F. Consulting Fees (e.g., advisory boards); J.M.H. serves on Medical / Scientific Advisory Boards of Circuit Therapeutics, Enspire DBS, and Neuropace. These entities did not support this work..
315.15	**P.R. Kennedy:** E. Ownership Interest (stock, stock options, royalty, receipt of intellectual property rights/patent holder, excluding diversified mutual funds); 98% ownership of Neural Signals.
315.21	**J.R. Jagid:** F. Consulting Fees (e.g., advisory boards); Medtronic.
315.23	**J. Grünwald:** A. Employment/Salary (full or part-time); g.tec medical engineering GmbH. **C. Kapeller:** A. Employment/Salary (full or part-time); g.tec Guger Technologies OG. **C. Guger:** E. Ownership Interest (stock, stock options, royalty, receipt of intellectual property rights/patent holder, excluding diversified mutual funds); g.tec neurotechnology GmbH.
315.24	**Q. Rabbani:** A. Employment/Salary (full or part-time); Johns Hopkins University. **S. Luo:** A. Employment/Salary (full or part-time); Johns Hopkins University. **H. Hermansky:** A. Employment/Salary (full or part-time); Johns Hopkins University, Center for Language and Speech Processing. F. Consulting Fees (e.g., advisory boards); Audience, Inc., Amazon, Inc., Hearing4All Scientific Consortium Center of Excellence in Hearing Research, VoiceBox, Inc. **N.E. Crone:** A. Employment/Salary (full or part-time); Johns Hopkins Hospital.

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316.01	**J. Diong:** C. Other Research Support (receipt of drugs, supplies, equipment or other in-kind support); This study is supported by a Kickstart Early Career Researcher Grant from the University of Sydney. **S.C. Gandevia:** A. Employment/Salary (full or part-time); Supported by the National Health and Medical Research Council (NHMRC) of Australia. **J.E. Butler:** A. Employment/Salary (full or part-time); Supported by the National Health and Medical Research Council (NHMRC) of Australia. **M.E. Héroux:** A. Employment/Salary (full or part-time); Supported by the National Health and Medical Research Council (NHMRC) of Australia.
320.06	**N.W. Gilpin:** F. Consulting Fees (e.g., advisory boards); Glauser Life Sciences.
321.16	**E.I.M. Flandreau:** A. Employment/Salary (full or part-time); GVSU.
321.17	**E.I.M. Flandreau:** A. Employment/Salary (full or part-time); Grand Valley State University.
322.02	**D.L. Davies:** A. Employment/Salary (full or part-time); Full time, USC. B. Contracted Research/Research Grant (principal investigator for a drug study, collaborator or consultant and pending and current grants). If you are a PI for a drug study, report that research relationship even if those funds come to an institution.; AA022448. **R.W. Olsen:** A. Employment/Salary (full or part-time); Full time, UCLA. B. Contracted Research/Research Grant (principal investigator for a drug study, collaborator or consultant and pending and current grants). If you are a PI for a drug study, report that research relationship even if those funds come to an institution.; AA07680.
322.20	**P.A. Parada:** Other; BUILDing Scholars Summer Research Program.
323.03	**K. Nakamura:** B. Contracted Research/Research Grant (principal investigator for a drug study, collaborator or consultant and pending and current grants). If you are a PI for a drug study, report that research relationship even if those funds come to an institution.; Sumitomo Dainippon Pharma, Co., Ltd..
327.10	**M.N. Reed:** Other; Center for Neuroscience Initiative, Auburn University, Auburn, AL. **V. Suppiramaniam:** Other; Center for Neuroscience Initiative, Auburn University, Auburn, AL.
329.07	**C.M. Porto:** C. Other Research Support (receipt of drugs, supplies, equipment or other in-kind support); Novo Nordisk, NIDA drug supply program. **M.M. Clasen:** C. Other Research Support (receipt of drugs, supplies, equipment or other in-kind support); Novo Nordisk, NIDA drug supply program.
329.17	**P.J. Wellman:** A. Employment/Salary (full or part-time); Texas A&M University. **S. Eitan:** A. Employment/Salary (full or part-time); Texas A&M University.
330.03	**N. Slager:** A. Employment/Salary (full or part-time); NeuroLight Technologies.
333.13	**L. Khiroug:** A. Employment/Salary (full or part-time); Neurotar Ltd.
335.05	**S.E. Lesne:** F. Consulting Fees (e.g., advisory boards); S.E.L. is a scientific consultant for Acelot Inc and has no actual or potential conflict of interest in relation to this study..
336.08	**N. Matsukawa:** B. Contracted Research/Research Grant (principal investigator for a drug study, collaborator or consultant and pending and current grants). If you are a PI for a drug study, report that research relationship even if those funds come to an institution.; Grant-in-Aid for Scientific Reserch (KAKENHI Grant Number 17K09761) from Japan Society for the Promotion of Science.
339.09	**G. Ding:** B. Contracted Research/Research Grant (principal investigator for a drug study, collaborator or consultant and pending and current grants). If you are a PI for a drug study, report that research relationship even if those funds come to an institution.; Research Office and the Lillywhite Endowment at Utah State University. **K.A.J. Mohr:** B. Contracted Research/Research Grant (principal investigator for a drug study, collaborator or consultant and pending and current grants). If you are a PI for a drug study, report that research relationship even if those funds come to an institution.; Research Office and the Lillywhite Endowment at Utah State University. **R. Gillam:** B. Contracted Research/Research Grant (principal investigator for a drug study, collaborator or consultant and pending and current grants). If you are a PI for a drug study, report that research relationship even if those funds come to an institution.; Research Office and the Lillywhite Endowment at Utah State University. **C. Orellana:** B. Contracted Research/Research Grant (principal investigator for a drug study, collaborator or consultant and pending and current grants). If you are a PI for a drug study, report that research relationship even if those funds come to an institution.; Research Office and the Lillywhite Endowment at Utah State University. **A. Hancock:** B. Contracted Research/Research Grant (principal investigator for a drug study, collaborator or consultant and pending and current grants). If you are a PI for a drug study, report that research relationship even if those funds come to an institution.; Research Office and the Lillywhite Endowment at Utah State University.
339.24	**A. Curtis:** A. Employment/Salary (full or part-time); Rice University, University of Texas Health Science Center at Houston, Memorial Hermann Hospital, Texas Medical Center. **O. Woolnough:** A. Employment/Salary (full or part-time); University of Texas Health Science Center at Houston. **K. Forseth:** A. Employment/Salary (full or part-time); University of Texas Health Science Center. **P. Rollo:** A. Employment/Salary (full or part-time); University of Texas Health Science Center at Houston. **N. Tandon:** A. Employment/Salary (full or part-time); Memorial Hermann Hospital, Texas Medical Center.
340.02	**J.D. Murray:** E. Ownership Interest (stock, stock options, royalty, receipt of intellectual property rights/patent holder, excluding diversified mutual funds); BlackThorn Therapeutics. F. Consulting Fees (e.g., advisory boards); BlackThorn Therapeutics.
341.02	**D. Wang:** E. Ownership Interest (stock, stock options, royalty, receipt of intellectual property rights/patent holder, excluding diversified mutual funds); D.W. has applied for a patent on the technology, assigned to MIT. **E.S. Boyden:** E. Ownership Interest (stock, stock options, royalty, receipt of intellectual property rights/patent holder, excluding diversified mutual funds); E.S.B., has applied for a patent on the technology, assigned to MIT. **N. Grossman:** E. Ownership Interest (stock, stock options, royalty, receipt of intellectual property rights/patent holder, excluding diversified mutual funds); N.G. has applied for a patent on the technology, assigned to MIT..
341.05	**M.D. Sunshine:** E. Ownership Interest (stock, stock options, royalty, receipt of intellectual property rights/patent holder, excluding diversified mutual funds); University of Florida. **K.J. Otto:** E. Ownership Interest (stock, stock options, royalty, receipt of intellectual property rights/patent holder, excluding diversified mutual funds); University of Florida. **D.D. Fuller:** E. Ownership Interest (stock, stock options, royalty, receipt of intellectual property rights/patent holder, excluding diversified mutual funds); University of Florida.
341.07	**R.J. Ilmoniemi:** E. Ownership Interest (stock, stock options, royalty, receipt of intellectual property rights/patent holder, excluding diversified mutual funds); Nexstim Plc. F. Consulting Fees (e.g., advisory boards); Nexstim Plc.
341.08	**M. Franke:** A. Employment/Salary (full or part-time); Neuronoff Inc.. E. Ownership Interest (stock, stock options, royalty, receipt of intellectual property rights/patent holder, excluding diversified mutual funds); Neuronoff Inc. **A.J. Shoffstall:** E. Ownership Interest (stock, stock options, royalty, receipt of intellectual property rights/patent holder, excluding diversified mutual funds); Neuronoff Inc. **K.A. Ludwig:** E. Ownership Interest (stock, stock options, royalty, receipt of intellectual property rights/patent holder,

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	excluding diversified mutual funds); Neuronoff Inc., NeuroOne Medical Inc.. F. Consulting Fees (e.g., advisory boards); Cala Health, Blackfynn, Battelle, Galvani.
341.27	**W.G. Besio:** A. Employment/Salary (full or part-time); CREmedical. E. Ownership Interest (stock, stock options, royalty, receipt of intellectual property rights/patent holder, excluding diversified mutual funds); Cremedical.
342.20	**K. Kilborn:** A. Employment/Salary (full or part-time); 3i. E. Ownership Interest (stock, stock options, royalty, receipt of intellectual property rights/patent holder, excluding diversified mutual funds); 3i. **O. Assayag:** A. Employment/Salary (full or part-time); 3i.
346	**D. Ofengeim:** A. Employment/Salary (full or part-time); Sanofi.
346.05	**M. Kerschensteiner:** B. Contracted Research/Research Grant (principal investigator for a drug study, collaborator or consultant and pending and current grants). If you are a PI for a drug study, report that research relationship even if those funds come to an institution.; Sanofi.
346.07	**D. Ofengeim:** A. Employment/Salary (full or part-time); Sanofi.
354.05	**K.R. Sadleir:** A. Employment/Salary (full or part-time); Northwestern University. **J. Popovic:** A. Employment/Salary (full or part-time); Northwestern University. **H. Do:** A. Employment/Salary (full or part-time); Northwestern University. **C.T. Reidl:** A. Employment/Salary (full or part-time); Northwestern University. **W. Zhu:** A. Employment/Salary (full or part-time); Northwestern University. **M. Prakriya:** A. Employment/Salary (full or part-time); Northwestern University. **R.B. Silverman:** A. Employment/Salary (full or part-time); Northwestern University. **R. Vassar:** A. Employment/Salary (full or part-time); Northwestern University.
354.10	**F. Caraci:** B. Contracted Research/Research Grant (principal investigator for a drug study, collaborator or consultant and pending and current grants). If you are a PI for a drug study, report that research relationship even if those funds come to an institution.; PI for this drug study conducted with the partial unrestricted support of Lundbeck according to the MTA N.417394 signed by University of Catania and H. Lundbeck A/S and Lundbeck Italia S.p.a...
358.08	**D. Häussinger:** E. Ownership Interest (stock, stock options, royalty, receipt of intellectual property rights/patent holder, excluding diversified mutual funds); D.H. belongs to a group of patent holders for the bedside measurement device determining the critical flicker frequency..
358.11	**S. McIntyre:** B. Contracted Research/Research Grant (principal investigator for a drug study, collaborator or consultant and pending and current grants). If you are a PI for a drug study, report that research relationship even if those funds come to an institution.; Facebook. C. Other Research Support (receipt of drugs, supplies, equipment or other in-kind support); Facebook. **R. Boehme:** B. Contracted Research/Research Grant (principal investigator for a drug study, collaborator or consultant and pending and current grants). If you are a PI for a drug study, report that research relationship even if those funds come to an institution.; Facebook. C. Other Research Support (receipt of drugs, supplies, equipment or other in-kind support); Facebook. **S.C. Hauser:** B. Contracted Research/Research Grant (principal investigator for a drug study, collaborator or consultant and pending and current grants). If you are a PI for a drug study, report that research relationship even if those funds come to an institution.; Facebook. C. Other Research Support (receipt of drugs, supplies, equipment or other in-kind support); Facebook. **A. Kusztor:** B. Contracted Research/Research Grant (principal investigator for a drug study, collaborator or consultant and pending and current grants). If you are a PI for a drug study, report that research relationship even if those funds come to an institution.; Facebook. C. Other Research Support (receipt of drugs, supplies, equipment or other in-kind support); Facebook. **A. Moungou:** B. Contracted Research/Research Grant (principal investigator for a drug study, collaborator or consultant and pending and current grants). If you are a PI for a drug study, report that research relationship even if those funds come to an institution.; Facebook. C. Other Research Support (receipt of drugs, supplies, equipment or other in-kind support); Facebook. **G. Novembre:** B. Contracted Research/Research Grant (principal investigator for a drug study, collaborator or consultant and pending and current grants). If you are a PI for a drug study, report that research relationship even if those funds come to an institution.; Facebook. C. Other Research Support (receipt of drugs, supplies, equipment or other in-kind support); Facebook. **G.J. Gerling:** B. Contracted Research/Research Grant (principal investigator for a drug study, collaborator or consultant and pending and current grants). If you are a PI for a drug study, report that research relationship even if those funds come to an institution.; Facebook. C. Other Research Support (receipt of drugs, supplies, equipment or other in-kind support); Facebook. **P.M. Isager:** B. Contracted Research/Research Grant (principal investigator for a drug study, collaborator or consultant and pending and current grants). If you are a PI for a drug study, report that research relationship even if those funds come to an institution.; Facebook. C. Other Research Support (receipt of drugs, supplies, equipment or other in-kind support); Facebook. **A. Israr:** A. Employment/Salary (full or part-time); Facebook. **S.S. Nagi:** B. Contracted Research/Research Grant (principal investigator for a drug study, collaborator or consultant and pending and current grants). If you are a PI for a drug study, report that research relationship even if those funds come to an institution.; Facebook. C. Other Research Support (receipt of drugs, supplies, equipment or other in-kind support); Facebook. **F. Abnousi:** A. Employment/Salary (full or part-time); Facebook. **E.A. Lumpkin:** F. Consulting Fees (e.g., advisory boards); Facebook. **M. Bjornsdotter:** B. Contracted Research/Research Grant (principal investigator for a drug study, collaborator or consultant and pending and current grants). If you are a PI for a drug study, report that research relationship even if those funds come to an institution.; Facebook. C. Other Research Support (receipt of drugs, supplies, equipment or other in-kind support); Facebook. **H. Olausson:** B. Contracted Research/Research Grant (principal investigator for a drug study, collaborator or consultant and pending and current grants). If you are a PI for a drug study, report that research relationship even if those funds come to an institution.; Facebook. C. Other Research Support (receipt of drugs, supplies, equipment or other in-kind support); Facebook.
361.11	**D.R. Coghill:** B. Contracted Research/Research Grant (principal investigator for a drug study, collaborator or consultant and pending and current grants). If you are a PI for a drug study, report that research relationship even if those funds come to an institution.; Eli Lilly, Shire. D. Fees for Non-CME Services Received Directly from Commercial Interest or their Agents (e.g., speakers' bureaus); Eli Lilly, Janssen McNeil, Medice, Novartis, Shire, Sunovion. F. Consulting Fees (e.g., advisory boards); Eli Lilly, Medice, Novartis, Oxford Outcomes, Shire, Viforpharma.
363.17	**A.J. Silva:** A. Employment/Salary (full or part-time); Instituto Nacional de Ciência e Tecnologia em Medicina Regenerativa, Coordenação de Aperfeiçoamento de Pessoal de Nível Superior. **R. Mendez-Otero:** A. Employment/Salary (full or part-time); Instituto Nacional de Ciência e Tecnologia em Medicina Regenerativa, Federal University of Rio de Janeiro.
363.19	**J. Ehrhart:** A. Employment/Salary (full or part-time); University of South Florida. B. Contracted Research/Research Grant (principal investigator for a drug study, collaborator or consultant and pending and current grants). If you are a PI for a drug study, report that research relationship even if those funds come to an institution.; Saneron CCEL. **P.R. Sanberg:** A. Employment/Salary (full or part-time); University of South Florida. B. Contracted Research/Research Grant (principal investigator for a drug study, collaborator or consultant and pending and current grants). If you are a PI for a drug study, report that research relationship even if those funds come to an institution.;

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	Saneron CCEL. **C.V. Borlongan:** A. Employment/Salary (full or part-time); University of South Florida. B. Contracted Research/Research Grant (principal investigator for a drug study, collaborator or consultant and pending and current grants). If you are a PI for a drug study, report that research relationship even if those funds come to an institution.; Astellas, Asterias, Athersys, ISCO, KMPHC, SanBio. E. Ownership Interest (stock, stock options, royalty, receipt of intellectual property rights/patent holder, excluding diversified mutual funds); Athersys, Sanbio.
364.03	**W. Li:** A. Employment/Salary (full or part-time); The Chinese University of Hong Kong.
364.10	**D.M. Gamm:** B. Contracted Research/Research Grant (principal investigator for a drug study, collaborator or consultant and pending and current grants). If you are a PI for a drug study, report that research relationship even if those funds come to an institution.; Opsis Therapeutics. E. Ownership Interest (stock, stock options, royalty, receipt of intellectual property rights/patent holder, excluding diversified mutual funds); Opsis Therapeutics.
365.02	**V. Rozes-Salvador:** A. Employment/Salary (full or part-time); National University of Villa María UNVM, University of Chile.
365.12	**R.A. Segal:** F. Consulting Fees (e.g., advisory boards); Amgen, Decibel Therapeutics, Allergan.
365.15	**V.L. Savchenko:** A. Employment/Salary (full or part-time); full time employment. **D.L. Feinstein:** B. Contracted Research/Research Grant (principal investigator for a drug study, collaborator or consultant and pending and current grants). If you are a PI for a drug study, report that research relationship even if those funds come to an institution.; principal investigator.
366.16	**R.J. Hagerman:** C. Other Research Support (receipt of drugs, supplies, equipment or other in-kind support); Novartis, Roche Parmaceuticals, Alcobra, Neuren. F. Consulting Fees (e.g., advisory boards); Zynerba, Fulcrum.
369.02	**E. Bulovaite:** A. Employment/Salary (full or part-time); Genes to Cognition Program, Centre for Clinical Brain Sciences, University of Edinburgh, Edinburgh EH16 4SB, UK. **Z. Qiu:** A. Employment/Salary (full or part-time); Genes to Cognition Program, Centre for Clinical Brain Sciences, University of Edinburgh, Edinburgh, EH16 4SB, UK. **M. Horrocks:** A. Employment/Salary (full or part-time); UK Dementia Research Institute, University of Edinburgh, Chancellor’s Building, Edinburgh Medical School, E. **B. Koniaris:** A. Employment/Salary (full or part-time); Genes to Cognition Program, Centre for Clinical Brain Sciences, University of Edinburgh, Edinburgh EH16 4SB, UK. **N.H. Komiyama:** A. Employment/Salary (full or part-time); Genes to Cognition Program, Centre for Clinical Brain Sciences, University of Edinburgh, Edinburgh EH16 4SB, UK. **E. Fransen:** A. Employment/Salary (full or part-time); Department of Computational Science and Technology, School of Electrical Engineering and Computer Science, KTH Royal Institute of Technology, 10044 Stockholm, Sweden. **S.G.N. Grant:** A. Employment/Salary (full or part-time); Genes to Cognition Program, Centre for Clinical Brain Sciences, University of Edinburgh, Edinburgh EH16 4SB, UK. B. Contracted Research/Research Grant (principal investigator for a drug study, collaborator or consultant and pending and current grants). If you are a PI for a drug study, report that research relationship even if those funds come to an institution.; UK Dementia Research Institute, University of Edinburgh, Chancellor’s Building, Edinburgh Medical School, Edinburgh. Other; Simons Initiative for the Developing Brain.
371.10	**T. Foldi:** A. Employment/Salary (full or part-time); Neunos Ltd. **A.J. Nagy:** E. Ownership Interest (stock, stock options, royalty, receipt of intellectual property rights/patent holder, excluding diversified mutual funds); Amplipex Ltd. **T. Gyurkovics:** E. Ownership Interest (stock, stock options, royalty, receipt of intellectual property rights/patent holder, excluding diversified mutual funds); Neunos Ltd.

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	A. Berenyi: E. Ownership Interest (stock, stock options, royalty, receipt of intellectual property rights/patent holder, excluding diversified mutual funds); Neunos Ltd.
371.13	**S. Ganesh:** A. Employment/Salary (full or part-time); Indian Institute of Technology Kanpur. B. Contracted Research/Research Grant (principal investigator for a drug study, collaborator or consultant and pending and current grants). If you are a PI for a drug study, report that research relationship even if those funds come to an institution.; Science and Engineering Research Board.
373.20	**B.C. Freitas:** A. Employment/Salary (full or part-time); FUJIFILM Cellular Dynamics, Inc. **M. McLachlan:** A. Employment/Salary (full or part-time); FUJIFILM Cellular Dynamics, Inc. **S.J. Dickerson:** A. Employment/Salary (full or part-time); FUJIFILM Cellular Dynamics, Inc. **C.A. Munn:** A. Employment/Salary (full or part-time); FUJIFILM Cellular Dynamics, Inc. **S.A. Burton:** A. Employment/Salary (full or part-time); FUJIFILM Cellular Dynamics, Inc. **A. Musinsky:** A. Employment/Salary (full or part-time); FUJIFILM Cellular Dynamics, Inc. **M. Goedland:** A. Employment/Salary (full or part-time); FUJIFILM Cellular Dynamics, Inc. **D. Rajesh:** A. Employment/Salary (full or part-time); FUJIFILM Cellular Dynamics, Inc. **S. Hilcove:** A. Employment/Salary (full or part-time); FUJIFILM Cellular Dynamics, Inc. **E. Jones:** A. Employment/Salary (full or part-time); FUJIFILM Cellular Dynamics, Inc..
374.06	**D.D. Luu:** A. Employment/Salary (full or part-time); Alkahest. **I. Gallager:** A. Employment/Salary (full or part-time); Alkahest. **E. Czirr:** A. Employment/Salary (full or part-time); Alkahest. **M.K. Campbell:** A. Employment/Salary (full or part-time); Alkahest. **S. Minami:** A. Employment/Salary (full or part-time); Alkahest. **V. Kheifets:** A. Employment/Salary (full or part-time); Alkahest. **S.P. Braithwaite:** A. Employment/Salary (full or part-time); Alkahest. **N. Huber:** A. Employment/Salary (full or part-time); Alkahest.
374.07	**A.L. Nguyen:** A. Employment/Salary (full or part-time); Alkahest. **N. Huber:** A. Employment/Salary (full or part-time); Alkahest. **D. Luu:** A. Employment/Salary (full or part-time); Alkahest. **S. Lohr:** A. Employment/Salary (full or part-time); Alkahest. **V. Kheifets:** A. Employment/Salary (full or part-time); Alkahest. **S. Braithwaite:** A. Employment/Salary (full or part-time); Alkahest. **D.P. Leone:** A. Employment/Salary (full or part-time); Alkahest.
375.23	**E.G. Mohler:** A. Employment/Salary (full or part-time); AbbVie. **A.V. Korepanova:** A. Employment/Salary (full or part-time); AbbVie. **C.G. Jakob:** A. Employment/Salary (full or part-time); AbbVie. **W. Qiu:** A. Employment/Salary (full or part-time); AbbVie. **S.C. Panchal:** A. Employment/Salary (full or part-time); AbbVie. **J. Wang:** A. Employment/Salary (full or part-time); AbbVie. **J.D. Dietrich:** A. Employment/Salary (full or part-time); AbbVie. **F. Pohlki:** A. Employment/Salary (full or part-time); Abbvie Deutschland Gmbh and Co. KG. **A. Kling:** A. Employment/Salary (full or part-time); Abbvie Deutschland Gmbh and Co. KG. **K.C. Wilcox:** A. Employment/Salary (full or part-time); AbbVie. **V. Lakics:** A. Employment/Salary (full or part-time); Abbvie Deutschland Gmbh and Co. KG. **L. Bahnassawy:** A. Employment/Salary (full or part-time); Abbvie Deutschland Gmbh and Co. KG. **P. Reinhardt:** A. Employment/Salary (full or part-time); Abbvie Deutschland Gmbh and Co. KG. **S. Karunan Partha:** A. Employment/Salary (full or part-time); AbbVie. **P. Bodelle:** A. Employment/Salary (full or part-time); AbbVie. **M.R. Lake:** A. Employment/Salary (full or part-time); AbbVie. **E.I. Charych:** A. Employment/Salary (full or part-time); AbbVie. **V.S. Stoll:** A. Employment/Salary (full or part-time); AbbVie. **C.C. Sun:** A. Employment/Salary (full or part-time); AbbVie. **A.M. Petros:** A. Employment/Salary (full or part-time); AbbVie.
376.04	**E.J. Su:** A. Employment/Salary (full or part-time); MDI Therapeutics (Novi, MI). E. Ownership Interest (stock, stock options, royalty, receipt of intellectual property rights/patent holder, excluding diversified mutual funds); MDI Therapeutics (Novi, MI). **D.A. Lawrence:** A. Employment/Salary (full or part-time); MDI Therapeutics (Novi, MI). E.

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	Ownership Interest (stock, stock options, royalty, receipt of intellectual property rights/patent holder, excluding diversified mutual funds); MDI Therapeutics (Novi, MI).
376.05	**K.M. Schoch:** C. Other Research Support (receipt of drugs, supplies, equipment or other in-kind support); Ionis Pharmaceuticals. **L. Ezerskiy:** C. Other Research Support (receipt of drugs, supplies, equipment or other in-kind support); Ionis Pharmaceuticals. **P. Jafar-Nejad:** A. Employment/Salary (full or part-time); Ionis Pharmaceuticals. **F. Rigo:** A. Employment/Salary (full or part-time); Ionis Pharmaceuticals. **T.M. Miller:** C. Other Research Support (receipt of drugs, supplies, equipment or other in-kind support); Ionis Pharmaceuticals.
376.07	**M. Ivarsson:** A. Employment/Salary (full or part-time); Rodin Therapeutics. E. Ownership Interest (stock, stock options, royalty, receipt of intellectual property rights/patent holder, excluding diversified mutual funds); Rodin Therapeutics. **B.A. Lynch:** A. Employment/Salary (full or part-time); Rodin Therapeutics. E. Ownership Interest (stock, stock options, royalty, receipt of intellectual property rights/patent holder, excluding diversified mutual funds); Rodin Therapeutics. **A. Pirone:** A. Employment/Salary (full or part-time); Rodin Therapeutics. E. Ownership Interest (stock, stock options, royalty, receipt of intellectual property rights/patent holder, excluding diversified mutual funds); Rodin Therapeutics. **N.O. Fuller:** A. Employment/Salary (full or part-time); Rodin Therapeutics. E. Ownership Interest (stock, stock options, royalty, receipt of intellectual property rights/patent holder, excluding diversified mutual funds); Rodin Therapeutics.
376.14	**M. LaDu:** B. Contracted Research/Research Grant (principal investigator for a drug study, collaborator or consultant and pending and current grants). If you are a PI for a drug study, report that research relationship even if those funds come to an institution.; This study was sponsored by AbbVie, Inc. AbbVie contributed to the study design, research, and interpretation of data, reviewing, and approving the abstract..
376.20	**C.W. Ende:** A. Employment/Salary (full or part-time); Pfizer.
377.12	**J. Stout:** A. Employment/Salary (full or part-time); Medical College of Wisconsin.
378.07	**K. Herrup:** C. Other Research Support (receipt of drugs, supplies, equipment or other in-kind support); the State Key Laboratory of Molecular Neuroscience.
380.12	**J.R. Clapper:** A. Employment/Salary (full or part-time); Abide Therapeutics. **T.H. Johnston:** B. Contracted Research/Research Grant (principal investigator for a drug study, collaborator or consultant and pending and current grants). If you are a PI for a drug study, report that research relationship even if those funds come to an institution.; Atuka Inc. **J.M. Brotchie:** B. Contracted Research/Research Grant (principal investigator for a drug study, collaborator or consultant and pending and current grants). If you are a PI for a drug study, report that research relationship even if those funds come to an institution.; Atuka Inc. **S.H. Fox:** B. Contracted Research/Research Grant (principal investigator for a drug study, collaborator or consultant and pending and current grants). If you are a PI for a drug study, report that research relationship even if those funds come to an institution.; University of Toronto. **J.L. Blankman:** A. Employment/Salary (full or part-time); Abide Therapeutics. **A. Viader:** A. Employment/Salary (full or part-time); Abide Therapeutics. **A.B. Ezekowitz:** A. Employment/Salary (full or part-time); Abide Therapeutics. **G.P. O'Neill:** A. Employment/Salary (full or part-time); Abide Therapeutics. **C.R. Beals:** A. Employment/Salary (full or part-time); Abide Therapeutics.
380.19	**L. Saidi:** B. Contracted Research/Research Grant (principal investigator for a drug study, collaborator or consultant and pending and current grants). If you are a PI for a drug study, report that research relationship even if those funds come to an institution.; Parkinson Canada.
381.02	**R. Patriat:** F. Consulting Fees (e.g., advisory boards); Surgical Information Sciences Inc. **N. Harel:** E. Ownership Interest (stock, stock options, royalty, receipt of intellectual property rights/patent holder, excluding diversified mutual funds); Surgical Information Sciences Inc. **M.C. Park:** B. Contracted Research/Research Grant (principal investigator for a drug study, collaborator or consultant and pending and current grants). If you are a PI for a drug study, report that research relationship even if those funds come to an institution.; Medtronic, Inc, Boston Scientific, Abbott. F. Consulting Fees (e.g., advisory boards); Zimmer Biomet, SynerFuse, Inc, NeuroOne, Boston Scientific. **J.L. Vitek:** F. Consulting Fees (e.g., advisory boards); Medtronic Inc., Boston Scientific, Abbott, Surgical Information Sciences, Inc..
381.03	**J.L. Vitek:** F. Consulting Fees (e.g., advisory boards); Medtronic, Inc., Boston Scientific, Abbott, Surgical Information Sciences, Inc..
381.06	**R. Patriat:** F. Consulting Fees (e.g., advisory boards); Surgical Information Sciences Inc. **N. Harel:** E. Ownership Interest (stock, stock options, royalty, receipt of intellectual property rights/patent holder, excluding diversified mutual funds); Surgical Information Sciences Inc.. F. Consulting Fees (e.g., advisory boards); Surgical Information Sciences Inc. **M.C. Park:** B. Contracted Research/Research Grant (principal investigator for a drug study, collaborator or consultant and pending and current grants). If you are a PI for a drug study, report that research relationship even if those funds come to an institution.; Medtronic, Inc.; Boston Scientific; Abbott. F. Consulting Fees (e.g., advisory boards); Zimmer Biomet; Synerfues, Inc; NeuroOne; Boston Scientific. **J.L. Vitek:** F. Consulting Fees (e.g., advisory boards); Medtronic, Inc.; Boston Scientific; Abbott; Surgical Information Sciences, Inc..
381.11	**H. Bronte-Stewart:** F. Consulting Fees (e.g., advisory boards); Dr. Bronte-Stewart is a member of the clinical advisory board for Medtronic Inc..
381.13	**H.M. Bronte-Stewart:** F. Consulting Fees (e.g., advisory boards); Dr. Bronte-Stewart is a member of the clinical advisory board for Medtronic Inc..
381.14	**H.M. Bronte-Stewart:** F. Consulting Fees (e.g., advisory boards); Dr. Bronte-Stewart is a member of the clinical advisory board for Medtronic Inc..
381.16	**H.M. Bronte-Stewart:** F. Consulting Fees (e.g., advisory boards); Dr. Bronte-Stewart is a member of the clinical advisory board for Medtronic Inc..
381.17	**H. Bronte-Stewart:** F. Consulting Fees (e.g., advisory boards); Clinical advisory board for Medtronic Inc.
382.08	**V. Duveau:** A. Employment/Salary (full or part-time); SynapCell SAS. **J. Volle:** A. Employment/Salary (full or part-time); SynapCell SAS. **G. Porras:** A. Employment/Salary (full or part-time); Motac Neuroscience. **E. Pioli:** A. Employment/Salary (full or part-time); SynapCell SAS. **A. Evrard:** A. Employment/Salary (full or part-time); SynapCell SAS. **C. Ruggiero:** A. Employment/Salary (full or part-time); SynapCell SAS. **C. Roucard:** A. Employment/Salary (full or part-time); SynapCell SAS. **E. Bezard:** A. Employment/Salary (full or part-time); Motac Neuroscience. **Y. Roche:** A. Employment/Salary (full or part-time); SynapCell SAS.
382.11	**H. Soloff:** A. Employment/Salary (full or part-time); Emory University. B. Contracted Research/Research Grant (principal investigator for a drug study, collaborator or consultant and pending and current grants). If you are a PI for a drug study, report that research relationship even if those funds come to an institution.; Supported by NIH grant P50NS098685 and the base grant of the Yerkes National Primate Research Center NIH/ORIP P51OD011132. **Y. Smith:** A. Employment/Salary (full or part-time); Emory University. B. Contracted Research/Research Grant (principal investigator for a drug study, collaborator or consultant and pending and current grants). If you are a PI for a drug study, report that research relationship even if those funds come to an institution.; Supported by NIH grant P50NS098685 and the base grant of the Yerkes National Primate Research Center NIH/ORIP P51OD011132.
382.16	**J. Steinhardt:** A. Employment/Salary (full or part-time); University of Lübeck. **H. Hanßen:** A. Employment/Salary

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	(full or part-time); University of Lübeck. **P. Schramm:** A. Employment/Salary (full or part-time); University of Lübeck. **J.K. Krauss:** A. Employment/Salary (full or part-time); University Medical Center Hannover. **J. Voges:** A. Employment/Salary (full or part-time); University Medical Center Magdeburg. **V. Tronnier:** A. Employment/Salary (full or part-time); University Medical Center Lübeck. **T.F. Münte:** A. Employment/Salary (full or part-time); University of Lübeck. B. Contracted Research/Research Grant (principal investigator for a drug study, collaborator or consultant and pending and current grants). If you are a PI for a drug study, report that research relationship even if those funds come to an institution.; DFG, BMBF. E. Ownership Interest (stock, stock options, royalty, receipt of intellectual property rights/patent holder, excluding diversified mutual funds); Hogrefe Publishers, Thieme Publishers, Elsevier. **M. Heldmann:** A. Employment/Salary (full or part-time); University of Lübeck. **N. Brüggemann:** A. Employment/Salary (full or part-time); University of Lübeck. B. Contracted Research/Research Grant (principal investigator for a drug study, collaborator or consultant and pending and current grants). If you are a PI for a drug study, report that research relationship even if those funds come to an institution.; Collaborative Center for X-linked Dystonia-Parkinsonism, Else Kröner-Fresenius-Foundation, DFG. E. Ownership Interest (stock, stock options, royalty, receipt of intellectual property rights/patent holder, excluding diversified mutual funds); Springer. Other; UCB, Grünenthal, Tena.
382.17	**U. Akbar:** A. Employment/Salary (full or part-time); 5Department of Neurology, Rhode Island Hospital, Providence, RI, 02903. Other; Norman Prince Neurosciences Institute, Rhode Island Hospital, Providence, RI, 02903. **W.F. Asaad:** A. Employment/Salary (full or part-time); 6Department of Neurosurgery, Rhode Island Hospital, Providence, RI, 02903. Other; Norman Prince Neurosciences Institute, Rhode Island Hospital, Providence, RI, 02903.
383.03	**W.M. Grill:** E. Ownership Interest (stock, stock options, royalty, receipt of intellectual property rights/patent holder, excluding diversified mutual funds); Deep Brain Innovations, NDI Healthcare Fund.
383.09	**K. Biglan:** A. Employment/Salary (full or part-time); Full, Eli Lilly and Company. E. Ownership Interest (stock, stock options, royalty, receipt of intellectual property rights/patent holder, excluding diversified mutual funds); Eli Lilly and Company.
383.10	**S.L. Broom:** F. Consulting Fees (e.g., advisory boards); NAD Research, Inc. **T. Olds:** A. Employment/Salary (full or part-time); Springfield Wellness Center. **R.F. Mestayer:** E. Ownership Interest (stock, stock options, royalty, receipt of intellectual property rights/patent holder, excluding diversified mutual funds); Royalty received from Archway Apothecary for NAD products. **P.N. Mestayer:** A. Employment/Salary (full or part-time); Director/Owner Springfield Wellness Center. E. Ownership Interest (stock, stock options, royalty, receipt of intellectual property rights/patent holder, excluding diversified mutual funds); Royalty received from Archway Apothecary for NAD products.
383.11	**C.R. Butson:** E. Ownership Interest (stock, stock options, royalty, receipt of intellectual property rights/patent holder, excluding diversified mutual funds); IntelectMedical. F. Consulting Fees (e.g., advisory boards); NeuroPace, Advanced Bionics, Boston Scientific, IntelectMedical, Abbott, Functional Neuromodulation.
383.12	**H.C. Walker:** A. Employment/Salary (full or part-time); UAB. B. Contracted Research/Research Grant (principal investigator for a drug study, collaborator or consultant and pending and current grants). If you are a PI for a drug study, report that research relationship even if those funds come to an institution.; National Institutes of Health, MJFF.
383.13	**K.M. Merchant:** A. Employment/Salary (full or part-time); Self-employed at TransThera Consulting Co.. B. Contracted Research/Research Grant (principal investigator for a drug study, collaborator or consultant and pending and current grants). If you are a PI for a drug study, report that research relationship even if those funds come to an institution.; Advisor and grant recepient to the Michael J Fox Foundation. E. Ownership Interest (stock, stock options, royalty, receipt of intellectual property rights/patent holder, excluding diversified mutual funds); CSO at Vincere Biosciences, ELi Lilly stock holder as a retiree. F. Consulting Fees (e.g., advisory boards); Lysosomal Therapeutics, Sinopia Biosciences, Origami Therapeutics, angel investors. Other; Member of NCATS and CAN Review Board, Member of Wellcome Trust Interview Panel. **T. Simuni:** B. Contracted Research/Research Grant (principal investigator for a drug study, collaborator or consultant and pending and current grants). If you are a PI for a drug study, report that research relationship even if those funds come to an institution.; NINDS, Michael J Fox Foundation, Parkinson Foundation, Biogen, Roche, Neuroderm, Sanofi, Sun Pharma, Northwestern Foudnation. C. Other Research Support (receipt of drugs, supplies, equipment or other in-kind support); GE Medical, TEVA, Lundbeck. F. Consulting Fees (e.g., advisory boards); Acadia, Abbvie, Allergan, Anavex, Accorda, Denali, GE Medical, Neuroderm, Neurocrine, Sanofi, Sunovion, TEVA, Takeda, Voyager, US World Meds, Parkinson Foundation, Michael J Fox Foundation. **P. Brundin:** B. Contracted Research/Research Grant (principal investigator for a drug study, collaborator or consultant and pending and current grants). If you are a PI for a drug study, report that research relationship even if those funds come to an institution.; Renovo, Roche, Teva/Lundbeck. E. Ownership Interest (stock, stock options, royalty, receipt of intellectual property rights/patent holder, excluding diversified mutual funds); Acousort AB. F. Consulting Fees (e.g., advisory boards); Renovo Neural, Inc., Roche, Teva Inc, Lundbeck A/S, AbbVie, Neuroderm, Fujifilm-Cellular Dynamics, IOS Press Partners, LifeSci Capital, LLC, Axial Biotherapeutics, CuraSen. **D.K. Simon:** B. Contracted Research/Research Grant (principal investigator for a drug study, collaborator or consultant and pending and current grants). If you are a PI for a drug study, report that research relationship even if those funds come to an institution.; BioElectron Technology, Inc; , Lysosomal Therapeutics, Inc. , Mission Therapeutics , Voyager Therapeutics, Weston Brain Institute , National Parkinson Foundation, NIH (NINDS) . F. Consulting Fees (e.g., advisory boards); Biogen , Halloran Consulting Group/ Cerevance Therapeutics, Michal J. Fox Foundation . **C. Venuto:** F. Consulting Fees (e.g., advisory boards); Michael J Fox Foundation.
383.15	**A.L. Ridgel:** E. Ownership Interest (stock, stock options, royalty, receipt of intellectual property rights/patent holder, excluding diversified mutual funds); Patent Inventor.
384.03	**G. Pal:** A. Employment/Salary (full or part-time); Rush University Medical Center, NINDS. B. Contracted Research/Research Grant (principal investigator for a drug study, collaborator or consultant and pending and current grants). If you are a PI for a drug study, report that research relationship even if those funds come to an institution.; MOVES-PD, NILO-PD.
384.09	**K.L. Chou:** F. Consulting Fees (e.g., advisory boards); Boston Scientific.
384.11	**K. Mente:** A. Employment/Salary (full or part-time); Dystonia Medical Research Foundation. **D. Haubenberger:** F. Consulting Fees (e.g., advisory boards); CADENT Pharmaceuticals. **M. Hallett:** B. Contracted Research/Research Grant (principal investigator for a drug study, collaborator or consultant and pending and current grants). If you are a PI for a drug study, report that research relationship even if those funds come to an institution.; Merz for treatment studies of focal hand dystonia, Allergan for studies of methods to inject botulinum toxins, Medtronic, Inc. for a study of DBS for dystonia, CALA Health for studies of a device to suppress tremor. E. Ownership Interest (stock, stock options, royalty, receipt of intellectual property rights/patent holder, excluding diversified mutual funds); US Patent #6,780,413 B2 (Issued: August 24, 2004): Immunotoxin (MAB-Ricin) for the treatment of focal movement disorders, US Patent #7,407,478 (Issued: August 5, 2008): Coil for Magnetic Stimulation and

methods for using the same (H-coil). F. Consulting Fees (e.g., advisory boards); Neurotoxin Institute, CALA Health, Cadent Medical Advisory Board.

385.01 **J. Corey-Bloom:** A. Employment/Salary (full or part-time); University of California San Diego. B. Contracted Research/Research Grant (principal investigator for a drug study, collaborator or consultant and pending and current grants). If you are a PI for a drug study, report that research relationship even if those funds come to an institution.; UCSD Huntington's Disease Society of America Center of Excellence, UCSD Shiley-Marcos Alzheimer's Disease Research Center. **P.E. Gilbert:** A. Employment/Salary (full or part-time); San Diego State University. B. Contracted Research/Research Grant (principal investigator for a drug study, collaborator or consultant and pending and current grants). If you are a PI for a drug study, report that research relationship even if those funds come to an institution.; NIH Grant P30 AG059299. **D.J. Goble:** A. Employment/Salary (full or part-time); San Diego State University. E. Ownership Interest (stock, stock options, royalty, receipt of intellectual property rights/patent holder, excluding diversified mutual funds); Equity Stake in Balance Tracking Systems, Inc., Pending Patent (OMB 0651-0032). **H.S. Baweja:** A. Employment/Salary (full or part-time); San Diego State University.

385.04 **J.A. O'Keefe:** B. Contracted Research/Research Grant (principal investigator for a drug study, collaborator or consultant and pending and current grants). If you are a PI for a drug study, report that research relationship even if those funds come to an institution.; Sub-investigator, A Phase 2b/3 RCT of VTS270 in NPC1. C. Other Research Support (receipt of drugs, supplies, equipment or other in-kind support); Hope for Hayley Foundation, Samantha's Search for the Cure Foundation. **E. Berry-Kravis:** B. Contracted Research/Research Grant (principal investigator for a drug study, collaborator or consultant and pending and current grants). If you are a PI for a drug study, report that research relationship even if those funds come to an institution.; Site PI: Phase 2b/3 RCT of VTS270 in NPC1. C. Other Research Support (receipt of drugs, supplies, equipment or other in-kind support); Hope for Hayley and Samantha's Search for the Cure Foundations. F. Consulting Fees (e.g., advisory boards); Vtesse, Sucampo and Mallinckrodt to consult on trial design/perform the VTS301 trial.

385.08 **H.J. Chizeck:** C. Other Research Support (receipt of drugs, supplies, equipment or other in-kind support); Medtronic.

385.10 **M. Apanaviciute:** B. Contracted Research/Research Grant (principal investigator for a drug study, collaborator or consultant and pending and current grants). If you are a PI for a drug study, report that research relationship even if those funds come to an institution.; Neurexpert. **S. Baker:** B. Contracted Research/Research Grant (principal investigator for a drug study, collaborator or consultant and pending and current grants). If you are a PI for a drug study, report that research relationship even if those funds come to an institution.; Neurexpert.

385.12 **K.A. Johnson:** B. Contracted Research/Research Grant (principal investigator for a drug study, collaborator or consultant and pending and current grants). If you are a PI for a drug study, report that research relationship even if those funds come to an institution.; NSF Graduate Research Fellowship Program (1747505). **J.L. Ostrem:** B. Contracted Research/Research Grant (principal investigator for a drug study, collaborator or consultant and pending and current grants). If you are a PI for a drug study, report that research relationship even if those funds come to an institution.; Michael J. Fox Foundation, Boston Scientific Cala Health, NIH, DARPA, PCORI, and Biogen, and she has also received training grant support from Boston Scientific and Medtronic. **A.M. Lozano:** E. Ownership Interest (stock, stock options, royalty, receipt of intellectual property rights/patent holder, excluding diversified mutual funds); Intellectual property in the field of DBS. F. Consulting Fees (e.g., advisory boards); consultant for Boston Scientific. **J. Kuhn:** B. Contracted Research/Research Grant (principal investigator for a drug study, collaborator or consultant and pending and current grants). If you are a PI for a drug study, report that research relationship even if those funds come to an institution.; Medtronic GmbH, German Research Foundation (KU2665/1-2) and the Marga and Walter Boll Foundation. **M.S. Okun:** B. Contracted Research/Research Grant (principal investigator for a drug study, collaborator or consultant and pending and current grants). If you are a PI for a drug study, report that research relationship even if those funds come to an institution.; NIH, NPF, Michael J. Fox Foundation, Parkinson Alliance, Smallwood Foundation, Bachmann-Strauss Foundation, Tourette Syndrome Association, UF Foundation. E. Ownership Interest (stock, stock options, royalty, receipt of intellectual property rights/patent holder, excluding diversified mutual funds); Demos, Manson, Amazon, Smashwords, Books4Patients, Cambridge. F. Consulting Fees (e.g., advisory boards); National Parkinson Foundation. Other; Associate editor for New England Journal of Medicine Journal Watch Neurology, CME and educational activities on movement disorders (in the last 36) months sponsored by PeerView, Prime, QuantiaMD, WebMD, Medicus, MedNet, Henry Stewart, and by Vanderbilt University. **C.R. Butson:** E. Ownership Interest (stock, stock options, royalty, receipt of intellectual property rights/patent holder, excluding diversified mutual funds); IntelectMedical. F. Consulting Fees (e.g., advisory boards); NeuroPace, IntelectMedical, Advanced Bionics, Abbott, Boston Scientific, Functional Neuromodulation.

385.13 **E. Evans:** A. Employment/Salary (full or part-time); Vaccinex. E. Ownership Interest (stock, stock options, royalty, receipt of intellectual property rights/patent holder, excluding diversified mutual funds); Vaccinex. **T. Fisher:** A. Employment/Salary (full or part-time); Vaccinex. **J. Leonard:** A. Employment/Salary (full or part-time); Vaccinex. E. Ownership Interest (stock, stock options, royalty, receipt of intellectual property rights/patent holder, excluding diversified mutual funds); Vaccinex. **A. Reader:** A. Employment/Salary (full or part-time); Vaccinex. **V. Mishra:** A. Employment/Salary (full or part-time); Vaccinex. **C. Mallow:** A. Employment/Salary (full or part-time); Vaccinex. **A. Howell:** A. Employment/Salary (full or part-time); Vaccinex. **E. Smith:** A. Employment/Salary (full or part-time); Vaccinex. E. Ownership Interest (stock, stock options, royalty, receipt of intellectual property rights/patent holder, excluding diversified mutual funds); Vaccinex. **A. Feigin:** B. Contracted Research/Research Grant (principal investigator for a drug study, collaborator or consultant and pending and current grants). If you are a PI for a drug study, report that research relationship even if those funds come to an institution.; Vaccinex, Teva. C. Other Research Support (receipt of drugs, supplies, equipment or other in-kind support); Voyager Therapeutics. F. Consulting Fees (e.g., advisory boards); Oxford Medica. **M. Zauderer:** A. Employment/Salary (full or part-time); Vaccinex. E. Ownership Interest (stock, stock options, royalty, receipt of intellectual property rights/patent holder, excluding diversified mutual funds); vaccinex.

386.06 **M. Saarma:** E. Ownership Interest (stock, stock options, royalty, receipt of intellectual property rights/patent holder, excluding diversified mutual funds); Inventors of the CDNF-patent, which is owned by Herantis Pharma Plc. MS is a shareholder of Herantis Pharma Plc. **M.H. Voutilainen:** E. Ownership Interest (stock, stock options, royalty, receipt of intellectual property rights/patent holder, excluding diversified mutual funds); Inventor of the CDNF-patent, which is owned by Herantis Pharma Plc..

386.08 **C. Liang:** A. Employment/Salary (full or part-time); University of Georgia. **Q. Shao:** A. Employment/Salary (full or part-time); University of Southern California. **W. Zhang:** A. Employment/Salary (full or part-time); University of Southern California. **M. Yang:** A. Employment/Salary (full or part-time); University of Southern California. **J. Chen:** A. Employment/Salary (full or part-time); University of Southern California.

386.19 **S. Flunkert:** A. Employment/Salary (full or part-time); QPS Austria GmbH. **R. Rabl:** A. Employment/Salary (full or part-time); QPS Austria GmbH. **A. Kasza:** A. Employment/Salary (full or part-time); QPS Austria GmbH. **V. Niederkofler:** A. Employment/Salary (full or part-time); QPS Austria GmbH. **E. Auer:** A. Employment/Salary (full or part-time); QPS Austria GmbH. **B. Hutter-Paier:** A. Employment/Salary (full or part-time); QPS Austria GmbH.

387.23 **B.A. Orser:** E. Ownership Interest (stock, stock options, royalty, receipt of intellectual property rights/patent holder, excluding diversified mutual funds); Dr. Orser is an inventor named on a Canadian patent (2,852,978), a US patent (9,517,265) and a pending US patent (62/268,137).

387.25 **B.A. Orser:** E. Ownership Interest (stock, stock options, royalty, receipt of intellectual property rights/patent holder, excluding diversified mutual funds); Dr. Orser is an inventor named on a Canadian patent (2,852,978), a US patent (9,517,265) and a pending US patent (62/268,137)..

388.03 **A.C. Singer:** E. Ownership Interest (stock, stock options, royalty, receipt of intellectual property rights/patent holder, excluding diversified mutual funds); Cognito Therapeutics Inc.

388.06 **S. Wasiak:** A. Employment/Salary (full or part-time); Resverlogix Corp. E. Ownership Interest (stock, stock options, royalty, receipt of intellectual property rights/patent holder, excluding diversified mutual funds); Resverlogix Corp. **E. Daze:** A. Employment/Salary (full or part-time); Resverlogix Corp. E. Ownership Interest (stock, stock options, royalty, receipt of intellectual property rights/patent holder, excluding diversified mutual funds); Resverlogix Corp. **L.M. Tsujikawa:** A. Employment/Salary (full or part-time); Resverlogix Corp. E. Ownership Interest (stock, stock options, royalty, receipt of intellectual property rights/patent holder, excluding diversified mutual funds); Resverlogix Corp. **S. Das:** A. Employment/Salary (full or part-time); Resverlogix Corp. E. Ownership Interest (stock, stock options, royalty, receipt of intellectual property rights/patent holder, excluding diversified mutual funds); Resverlogix Corp. **L. Fu:** A. Employment/Salary (full or part-time); Resverlogix. E. Ownership Interest (stock, stock options, royalty, receipt of intellectual property rights/patent holder, excluding diversified mutual funds); Resverlogix. **D. Gilham:** A. Employment/Salary (full or part-time); Resverlogix Corp. E. Ownership Interest (stock, stock options, royalty, receipt of intellectual property rights/patent holder, excluding diversified mutual funds); Resverlogix Corp. **B.D. Rakai:** A. Employment/Salary (full or part-time); Resverlogix Corp. E. Ownership Interest (stock, stock options, royalty, receipt of intellectual property rights/patent holder, excluding diversified mutual funds); Resverlogix Corp. **S.C. Stotz:** A. Employment/Salary (full or part-time); Resverlogix Corp. E. Ownership Interest (stock, stock options, royalty, receipt of intellectual property rights/patent holder, excluding diversified mutual funds); Resverlogix Corp. **C.D. Sarsons:** A. Employment/Salary (full or part-time); Resverlogix Corp. E. Ownership Interest (stock, stock options, royalty, receipt of intellectual property rights/patent holder, excluding diversified mutual funds); Resverlogix Corp. **K.D. Rinker:** B. Contracted Research/Research Grant (principal investigator for a drug study, collaborator or consultant and pending and current grants). If you are a PI for a drug study, report that research relationship even if those funds come to an institution.; Resverlogix Corp. **R. Jahagirdar:** A. Employment/Salary (full or part-time); Resverlogix Corp.. E. Ownership Interest (stock, stock options, royalty, receipt of intellectual property rights/patent holder, excluding diversified mutual funds); Resverlogix Corp. **N.C.W. Wong:** A. Employment/Salary (full or part-time); Resverlogix Corp. E. Ownership Interest (stock, stock options, royalty, receipt of intellectual property rights/patent holder, excluding diversified mutual funds); Resverlogix Corp. **M. Sweeney:** A. Employment/Salary (full or part-time); Resverlogix. E. Ownership Interest (stock, stock options, royalty, receipt of intellectual property rights/patent holder, excluding diversified mutual funds); Resverlogix. **J.O. Johansson:** A. Employment/Salary (full or part-time); Resverlogix. E. Ownership Interest (stock, stock options, royalty, receipt of intellectual property rights/patent holder, excluding diversified mutual funds); Resverlogix. **E. Kulikowski:** A. Employment/Salary (full or part-time); Resverlogix Corp. E. Ownership Interest (stock, stock options, royalty, receipt of intellectual property rights/patent holder, excluding diversified mutual funds); Resverlogix Corp..

389.13 **V. Niederkofler:** A. Employment/Salary (full or part-time); QPS Austria GmbH. **T. Loeffler:** A. Employment/Salary (full or part-time); QPS Austria GmbH. **E. Auer:** A. Employment/Salary (full or part-time); QPS Austria GmbH. **S. Flunkert:** A. Employment/Salary (full or part-time); QPS Austria GmbH. **J. Neddens:** A. Employment/Salary (full or part-time); QPS Austria GmbH. **B. Hutter-Paier:** A. Employment/Salary (full or part-time); QPS Austria GmbH.

389.18 **S. Anderson:** A. Employment/Salary (full or part-time); Samumed, LLC. **M.W. Akhtar:** A. Employment/Salary (full or part-time); Samumed, LLC. **K. Duong-Polk:** A. Employment/Salary (full or part-time); Samumed, LLC. **C. Lai:** A. Employment/Salary (full or part-time); Samumed, LLC. **B. Guner:** A. Employment/Salary (full or part-time); Samumed, LLC. **S. Habroun:** A. Employment/Salary (full or part-time); Samumed, LLC. **B. Melchior:** A. Employment/Salary (full or part-time); Samumed, LLC.

393.01 **Z. Alvarez Pinto:** A. Employment/Salary (full or part-time); Paralyzed Veterans of America Foundation.

393.22 **K. Clarke:** E. Ownership Interest (stock, stock options, royalty, receipt of intellectual property rights/patent holder, excluding diversified mutual funds); University of Oxford.

393.24 **K. Clarke:** E. Ownership Interest (stock, stock options, royalty, receipt of intellectual property rights/patent holder, excluding diversified mutual funds); University of Oxford.

394.03 **V.A. Bohr:** B. Contracted Research/Research Grant (principal investigator for a drug study, collaborator or consultant and pending and current grants). If you are a PI for a drug study, report that research relationship even if those funds come to an institution.; ChromaDex.

394.08 **A. Jalligampala:** Other; Precision Biosciences. **G. Pangeni:** Other; Precision Biosciences. **M.H. Jabbar:** Other; Precision Biosciences. **M.A. McCall:** Other; Precision Biosciences.

394.12 **C. Romanet:** A. Employment/Salary (full or part-time); Sensorion SA. E. Ownership Interest (stock, stock options, royalty, receipt of intellectual property rights/patent holder, excluding diversified mutual funds); Sensorion SA. **C. Tran Van Ba:** A. Employment/Salary (full or part-time); Sensorion SA. E. Ownership Interest (stock, stock options, royalty, receipt of intellectual property rights/patent holder, excluding diversified mutual funds); Sensorion SA. **P. Liaudet:** A. Employment/Salary (full or part-time); Sensorion SA. E. Ownership Interest (stock, stock options, royalty, receipt of intellectual property rights/patent holder, excluding diversified mutual funds); Sensorion SA. **M. Petremann:** A. Employment/Salary (full or part-time); Sensorion SA. E. Ownership Interest (stock, stock options, royalty, receipt of intellectual property rights/patent holder, excluding diversified mutual funds); Sensorion SA. **J. Dyhrfjeld-Johnsen:** A. Employment/Salary (full or part-time); Sensorion SA. E. Ownership Interest (stock, stock options, royalty, receipt of intellectual property rights/patent holder, excluding diversified mutual funds); Sensorion SA.

394.14 **W.R. Stauffer:** E. Ownership Interest (stock, stock options, royalty, receipt of intellectual property rights/patent holder, excluding diversified mutual funds); Patent applications on described methods. **L.C. Byrne:** E. Ownership Interest (stock, stock options, royalty, receipt of intellectual property rights/patent holder, excluding diversified mutual funds); Patent holder on viral vectors for gene therapy.

395.09 **M.M. Sabbahi:** A. Employment/Salary (full or part-time); Texas Woman's University School of Physical Therapy, Texas Physical Therapy and electrophysiology Services.

396.04 **A. Haruta-Tsukamoto:** C. Other Research Support (receipt of drugs, supplies, equipment or other in-kind support); Eisai. **T. Nishimori:** C. Other Research Support (receipt of

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	drugs, supplies, equipment or other in-kind support); Eisai. **Y. Ishida:** C. Other Research Support (receipt of drugs, supplies, equipment or other in-kind support); Eisai.
396.05	**G. Yosipovitch:** B. Contracted Research/Research Grant (principal investigator for a drug study, collaborator or consultant and pending and current grants). If you are a PI for a drug study, report that research relationship even if those funds come to an institution.; Pfizer. F. Consulting Fees (e.g., advisory boards); Pfizer, Novartis, Eli Lilly, Sanofi, Galderma, Trevi, Menlo, Sienna, UCB.
398.19	**D.C. Lee:** A. Employment/Salary (full or part-time); Nevro. **K. Lee:** A. Employment/Salary (full or part-time); Nevro. **Z. Kagan:** A. Employment/Salary (full or part-time); Nevro. **K. Bradley:** A. Employment/Salary (full or part-time); Nevro.
398.20	**D. Salvemini:** C. Other Research Support (receipt of drugs, supplies, equipment or other in-kind support); DS is founders of BioIntervene, Inc. which has licensed related intellectual property from Saint Louis University and the National Institute of Health. All other authors declare no competing interest.
399.04	**M. Kollo:** E. Ownership Interest (stock, stock options, royalty, receipt of intellectual property rights/patent holder, excluding diversified mutual funds); Patent: Electrochemical probe (US20180067075A1). **R.R. Racz:** E. Ownership Interest (stock, stock options, royalty, receipt of intellectual property rights/patent holder, excluding diversified mutual funds); Patent: Electrochemical probe (US20180067075A1). **M. Hanna:** A. Employment/Salary (full or part-time); Paradromics Inc. **M.R. Angle:** E. Ownership Interest (stock, stock options, royalty, receipt of intellectual property rights/patent holder, excluding diversified mutual funds); Paradromics Inc. **J. Mueller:** E. Ownership Interest (stock, stock options, royalty, receipt of intellectual property rights/patent holder, excluding diversified mutual funds); MaxWell Biosystems. **N. Melosh:** E. Ownership Interest (stock, stock options, royalty, receipt of intellectual property rights/patent holder, excluding diversified mutual funds); Paradromics Inc. **A.T. Schaefer:** E. Ownership Interest (stock, stock options, royalty, receipt of intellectual property rights/patent holder, excluding diversified mutual funds); Paradromics Inc..
399.11	**J. Lundeberg:** E. Ownership Interest (stock, stock options, royalty, receipt of intellectual property rights/patent holder, excluding diversified mutual funds); Author on patents owned by Spatial Transcriptomics covering the technology.
403.26	**H. Khdour:** A. Employment/Salary (full or part-time); RUTGERS UNIVERSITY.
404.09	**K.V. Shenoy:** F. Consulting Fees (e.g., advisory boards); Neuralink Corp, CTRL-Labs Inc., MIND-X Inc., Inscopix Inc., Heal Inc..
404.10	**K.V. Shenoy:** F. Consulting Fees (e.g., advisory boards); CTRL-Labs Inc., MIND-X Inc., Inscopix Inc., Neuralink Corp., Heal Inc..
404.11	**N.G. Hatsopoulos:** F. Consulting Fees (e.g., advisory boards); Blackrock Microsystems.
404.14	**K. Takahashi:** Other; NeuroNexus.
404.17	**N.G. Hatsopoulos:** F. Consulting Fees (e.g., advisory boards); Consultant.
406.17	**D. Friedenberg:** A. Employment/Salary (full or part-time); Battelle. **N. Skomrock:** A. Employment/Salary (full or part-time); Battelle. **M.A. Bockbrader:** A. Employment/Salary (full or part-time); OSU. **G. Sharma:** A. Employment/Salary (full or part-time); Battelle.
409.20	**M. Colon:** A. Employment/Salary (full or part-time); Ponce Research Institute.
412.10	**J. Spohrs:** A. Employment/Salary (full or part-time); University Ulm, Department of Child- and Adolescent Psychiatry and Psychotherapy III.
413.04	**V. Chen:** A. Employment/Salary (full or part-time); Chang Gung University. **Y. Tsai:** A. Employment/Salary (full or part-time); Chang Gung University. **J. Weng:** A. Employment/Salary (full or part-time); Chang Gung University.
416.01	**A. Echevarria- Rivera:** A. Employment/Salary (full or part-time); Ponce Research Institute.
416.06	**M.J. Forster:** A. Employment/Salary (full or part-time); University of North Texas Health Science Center.
417.06	**L.O. Mair:** A. Employment/Salary (full or part-time); Weinberg Medical Physics. **S. Jafari:** A. Employment/Salary (full or part-time); Weinberg Medical Physics. **P. Stepanov:** A. Employment/Salary (full or part-time); Weinberg Medical Physics. **O. Hale:** A. Employment/Salary (full or part-time); Weinberg Medical Physics. **C. Ropp:** A. Employment/Salary (full or part-time); Weinberg Medical Physics. **A. Hevaganinge:** A. Employment/Salary (full or part-time); Weinberg Medical Physics. **I.N. Weinberg:** A. Employment/Salary (full or part-time); Weinberg Medical Physics.
417.24	**H. Bayer:** E. Ownership Interest (stock, stock options, royalty, receipt of intellectual property rights/patent holder, excluding diversified mutual funds); Datacubed Health. **P.W. Glimcher:** E. Ownership Interest (stock, stock options, royalty, receipt of intellectual property rights/patent holder, excluding diversified mutual funds); Datacubed Health.
418.11	**J.A. McGaughy:** A. Employment/Salary (full or part-time); University of New Hampshire, Full-time.
418.12	**M.K. Clement:** A. Employment/Salary (full or part-time); University of New Hampshire Durham, NH. **J.A. McGaughy:** A. Employment/Salary (full or part-time); University of New Hampshire Durham, NH.
418.18	**D. Ferro:** A. Employment/Salary (full or part-time); Center for Mind/Brain Sciences (CIMeC), University of Trento, Rovereto, Italy.
420.03	**J.D. Murray:** E. Ownership Interest (stock, stock options, royalty, receipt of intellectual property rights/patent holder, excluding diversified mutual funds); BlackThorn Therapeutics. F. Consulting Fees (e.g., advisory boards); BlackThorn Therapeutics.
423.07	**E. Holmes:** B. Contracted Research/Research Grant (principal investigator for a drug study, collaborator or consultant and pending and current grants). If you are a PI for a drug study, report that research relationship even if those funds come to an institution.; Swedish Research Council (2017-00957). F. Consulting Fees (e.g., advisory boards); Board of the charity MQ: Transforming Mental Health, Advisory Board of The Lancet Psychiatry. **N. Censor:** B. Contracted Research/Research Grant (principal investigator for a drug study, collaborator or consultant and pending and current grants). If you are a PI for a drug study, report that research relationship even if those funds come to an institution.; I-CORE program of the Planning and Budgeting Committee (grant 51/11), ISF (grant 526/17)..
423.19	**A.S. Nilakantan:** A. Employment/Salary (full or part-time); Northwestern University. **L. Wang:** A. Employment/Salary (full or part-time); Northwestern University. **J.L. Voss:** A. Employment/Salary (full or part-time); Northwestern University. B. Contracted Research/Research Grant (principal investigator for a drug study, collaborator or consultant and pending and current grants). If you are a PI for a drug study, report that research relationship even if those funds come to an institution.; NIH Grant no. R01AG049002.
425.01	**A. Zangen:** E. Ownership Interest (stock, stock options, royalty, receipt of intellectual property rights/patent holder, excluding diversified mutual funds); Brainsway. F. Consulting Fees (e.g., advisory boards); Brainsway.
426.01	**A.G. Machado:** E. Ownership Interest (stock, stock options, royalty, receipt of intellectual property rights/patent holder, excluding diversified mutual funds); Distribution rights from IP for Enspire DBS.
426.07	**G. Repovs:** F. Consulting Fees (e.g., advisory boards); BlackThorn Therapeutics. **A. Anticevic:** E. Ownership Interest (stock, stock options, royalty, receipt of intellectual

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	property rights/patent holder, excluding diversified mutual funds); BlackThorn Therapeutics. F. Consulting Fees (e.g., advisory boards); BlackThorn Therapeutics.
426.10	**T. Lencz:** F. Consulting Fees (e.g., advisory boards); Genomind, Inc. **A.K. Malhotra:** F. Consulting Fees (e.g., advisory boards); Forum Pharmaceuticals, Genomind, Inc..
427.17	**R.L. Buckner:** F. Consulting Fees (e.g., advisory boards); Roche.
427.19	**R.W. Mair:** A. Employment/Salary (full or part-time); spouse affiliation, Takeda Pharmaceutical Company Ltd. E. Ownership Interest (stock, stock options, royalty, receipt of intellectual property rights/patent holder, excluding diversified mutual funds); spouse affiliation, Takeda Pharmaceutical Company Ltd. **M.C. Eldaief:** A. Employment/Salary (full or part-time); spouse affiliation, Takeda Pharmaceutical Company Ltd. E. Ownership Interest (stock, stock options, royalty, receipt of intellectual property rights/patent holder, excluding diversified mutual funds); spouse affiliation, Takeda Pharmaceutical Company Ltd. **B.C. Dickerson:** F. Consulting Fees (e.g., advisory boards); Biogen, Alector, Wave LifeSciences. **R.L. Buckner:** F. Consulting Fees (e.g., advisory boards); Roche.
428.03	**J.C. Neill:** B. Contracted Research/Research Grant (principal investigator for a drug study, collaborator or consultant and pending and current grants). If you are a PI for a drug study, report that research relationship even if those funds come to an institution.; CEO and founder of b-neuro.
428.08	**R. Rajakumar:** E. Ownership Interest (stock, stock options, royalty, receipt of intellectual property rights/patent holder, excluding diversified mutual funds); Patent holder.
429.02	**S.L. Goodman:** E. Ownership Interest (stock, stock options, royalty, receipt of intellectual property rights/patent holder, excluding diversified mutual funds); Microscopy Innovations, LLC.
430.04	**S. Schaffelhofer:** A. Employment/Salary (full or part-time); cortEXplore GmbH. **R. Prückl:** A. Employment/Salary (full or part-time); cortEXplore GmbH.
430.13	**P. Kiele:** A. Employment/Salary (full or part-time); University of Freiburg. **C.F. Pasluosta:** A. Employment/Salary (full or part-time); University of Freiburg. **T. Stieglitz:** A. Employment/Salary (full or part-time); University of Freiburg.
430.14	**R. Van Daal:** A. Employment/Salary (full or part-time); Atlas Neuroengineering.
430.16	**P. Garces:** A. Employment/Salary (full or part-time); F. Hoffmann-La Roche Ltd. **M. Pouliot:** A. Employment/Salary (full or part-time); Citoxlab North America. **S. Authier:** A. Employment/Salary (full or part-time); Citoxlab North America. **J.F. Hipp:** A. Employment/Salary (full or part-time); F. Hoffmann-La Roche Ltd.
430.19	**M. Leber:** A. Employment/Salary (full or part-time); Blackrock Microsystems (full time). **R. Bhandari:** A. Employment/Salary (full or part-time); Blackrock Microsystems (full time). **S. Negi:** A. Employment/Salary (full or part-time); Blackrock Microsystems (full time).
430.21	**R.S. Clement:** A. Employment/Salary (full or part-time); Actuated Medical, Inc. **N.N. Tirko:** A. Employment/Salary (full or part-time); Actuated Medical, Inc. **J.K. Greaser:** A. Employment/Salary (full or part-time); Actuated Medical, Inc. **R.B. Bagwell:** A. Employment/Salary (full or part-time); Actuated Medical, Inc.. E. Ownership Interest (stock, stock options, royalty, receipt of intellectual property rights/patent holder, excluding diversified mutual funds); Actuated Medical, Inc. **M.L. Mulvihill:** A. Employment/Salary (full or part-time); Actuated Medical, Inc.. E. Ownership Interest (stock, stock options, royalty, receipt of intellectual property rights/patent holder, excluding diversified mutual funds); Actuated Medical, Inc..
430.24	**G. Palis:** A. Employment/Salary (full or part-time); Blackrock Microsystems (full time). **R. Bhandari:** A. Employment/Salary (full or part-time); Blackrock Microsystems (full time). **V. Ngo:** A. Employment/Salary (full or part-time); Blackrock Microsystems (full time). **R. Franklin:** A. Employment/Salary (full or part-time); Blackrock Microsystems (full time). **M. Gerhardt:** A. Employment/Salary (full or part-time); Blackrock Microsystems (full time). **F. Solzbacher:** A. Employment/Salary (full or part-time); Blackrock Microsystems.
431.02	**N.J. O'Connor:** A. Employment/Salary (full or part-time); MBF Bioscience. **B.S. Eastwood:** A. Employment/Salary (full or part-time); MBF Bioscience. **P.J. Angstman:** A. Employment/Salary (full or part-time); MBF Bioscience. **N.D. Liese:** A. Employment/Salary (full or part-time); MBF Bioscience. **C.S. Gerfen:** A. Employment/Salary (full or part-time); MBF Bioscience. **H.L. Kessler:** A. Employment/Salary (full or part-time); MBF Bioscience. **M. Gulenko:** A. Employment/Salary (full or part-time); MBF Bioscience. **J.R. Glaser:** A. Employment/Salary (full or part-time); MBF Bioscience.
431.04	**M.W. Nowak:** A. Employment/Salary (full or part-time); Cytocybernetics, Inc. **B.K. Panama:** A. Employment/Salary (full or part-time); Cytocybernetics, Inc. **B. Franks:** A. Employment/Salary (full or part-time); Cytocybernetics Inc. **L. Korbel:** A. Employment/Salary (full or part-time); Cytocybernetics Inc. **R.L. Rasmusson:** B. Contracted Research/Research Grant (principal investigator for a drug study, collaborator or consultant and pending and current grants). If you are a PI for a drug study, report that research relationship even if those funds come to an institution.; Cytocybernetics Inc.. E. Ownership Interest (stock, stock options, royalty, receipt of intellectual property rights/patent holder, excluding diversified mutual funds); Cytocybernetics Inc. **G.C.L. Bett:** A. Employment/Salary (full or part-time); Cytocybernetics Inc.. E. Ownership Interest (stock, stock options, royalty, receipt of intellectual property rights/patent holder, excluding diversified mutual funds); Cytocybernetics Inc..
431.16	**K. Donohue:** A. Employment/Salary (full or part-time); Signal Solutions, LLC. **B.F. O'Hara:** A. Employment/Salary (full or part-time); Signal Solutions, LLC.
432.17	**A.C. Liddell:** A. Employment/Salary (full or part-time); Vidrio Technologies. **N.G. Clack:** A. Employment/Salary (full or part-time); Vidrio Technologies. **B. Kimmel:** A. Employment/Salary (full or part-time); Vidrio Technologies.
433.07	**J.A. Rogers:** E. Ownership Interest (stock, stock options, royalty, receipt of intellectual property rights/patent holder, excluding diversified mutual funds); Neurolux. **R.W. Gereau:** E. Ownership Interest (stock, stock options, royalty, receipt of intellectual property rights/patent holder, excluding diversified mutual funds); Neurolux.
433.16	**T.L. Sampsell:** A. Employment/Salary (full or part-time); Stem Pharm, Incorporated. **G. Kaushik:** A. Employment/Salary (full or part-time); Stem Pharm, Incorporated. E. Ownership Interest (stock, stock options, royalty, receipt of intellectual property rights/patent holder, excluding diversified mutual funds); Stem Pharm, Incorporated. **W.D. Richards:** A. Employment/Salary (full or part-time); Stem Pharm, Incorporated. E. Ownership Interest (stock, stock options, royalty, receipt of intellectual property rights/patent holder, excluding diversified mutual funds); Stem Pharm, Incorporated. **K. Xu:** A. Employment/Salary (full or part-time); BrainXell, Incorporated. **Z. Du:** A. Employment/Salary (full or part-time); BrainXell, Incorporated. **M. Hendrickson:** A. Employment/Salary (full or part-time); BrainXell, Incorporated. F. Consulting Fees (e.g., advisory boards); Stem Pharm, Incorporated. **C.S. Lebakken:** A. Employment/Salary (full or part-time); Stem Pharm, Incorporated. B. Contracted Research/Research Grant (principal investigator for a drug study, collaborator or consultant and pending and current grants). If you are a PI for a drug study, report that research relationship even if those funds come to an institution.; NIH sponsored SBIR grants. E. Ownership Interest (stock, stock options, royalty, receipt of intellectual property rights/patent holder, excluding diversified mutual funds); Stem Pharm, Incorporated.

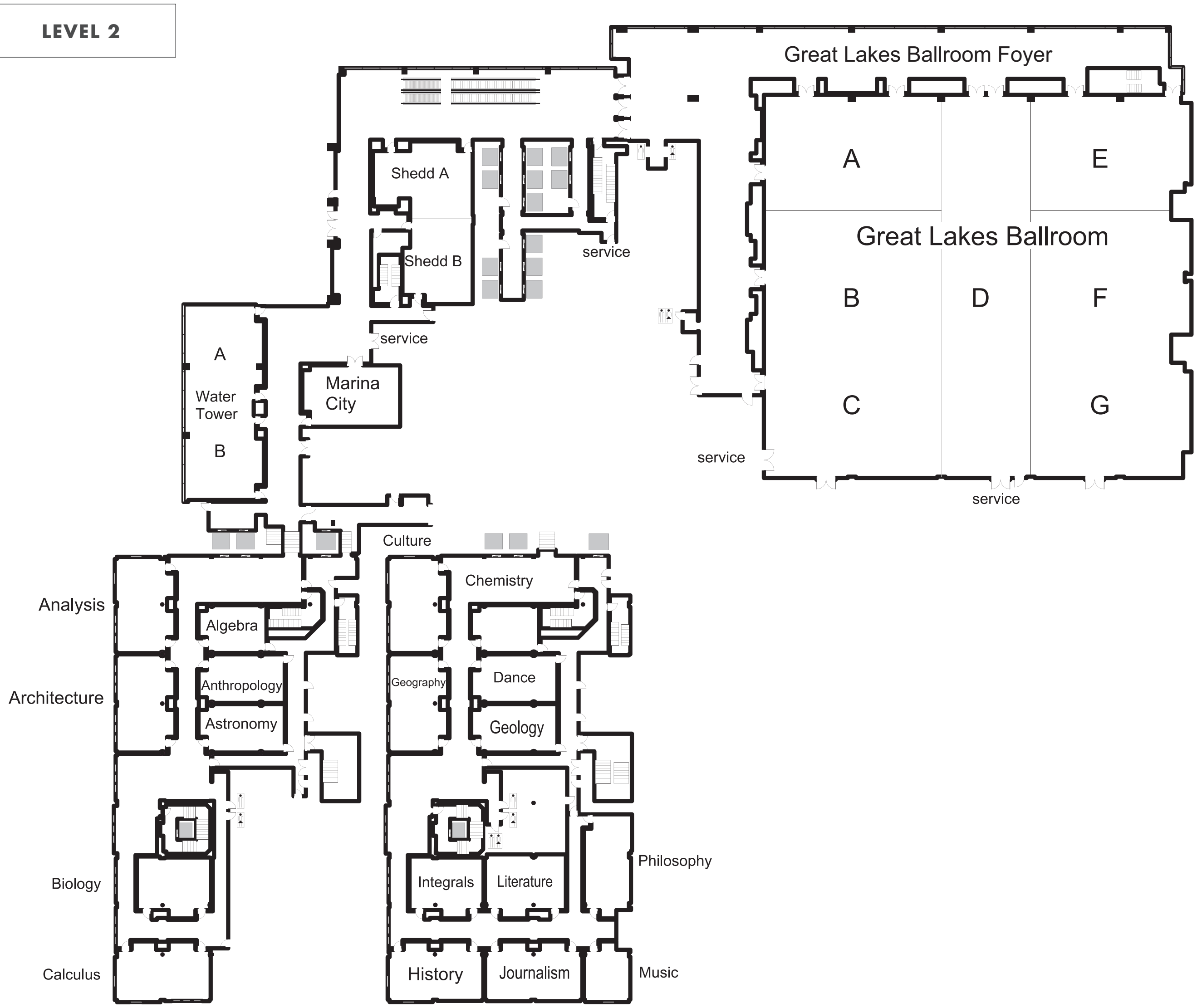
Hotel Floor Plans

MARRIOTT MARQUIS CHICAGO

2121 S. PRAIRIE AVENUE

CHICAGO, ILLINOIS 60616

LEVEL 2



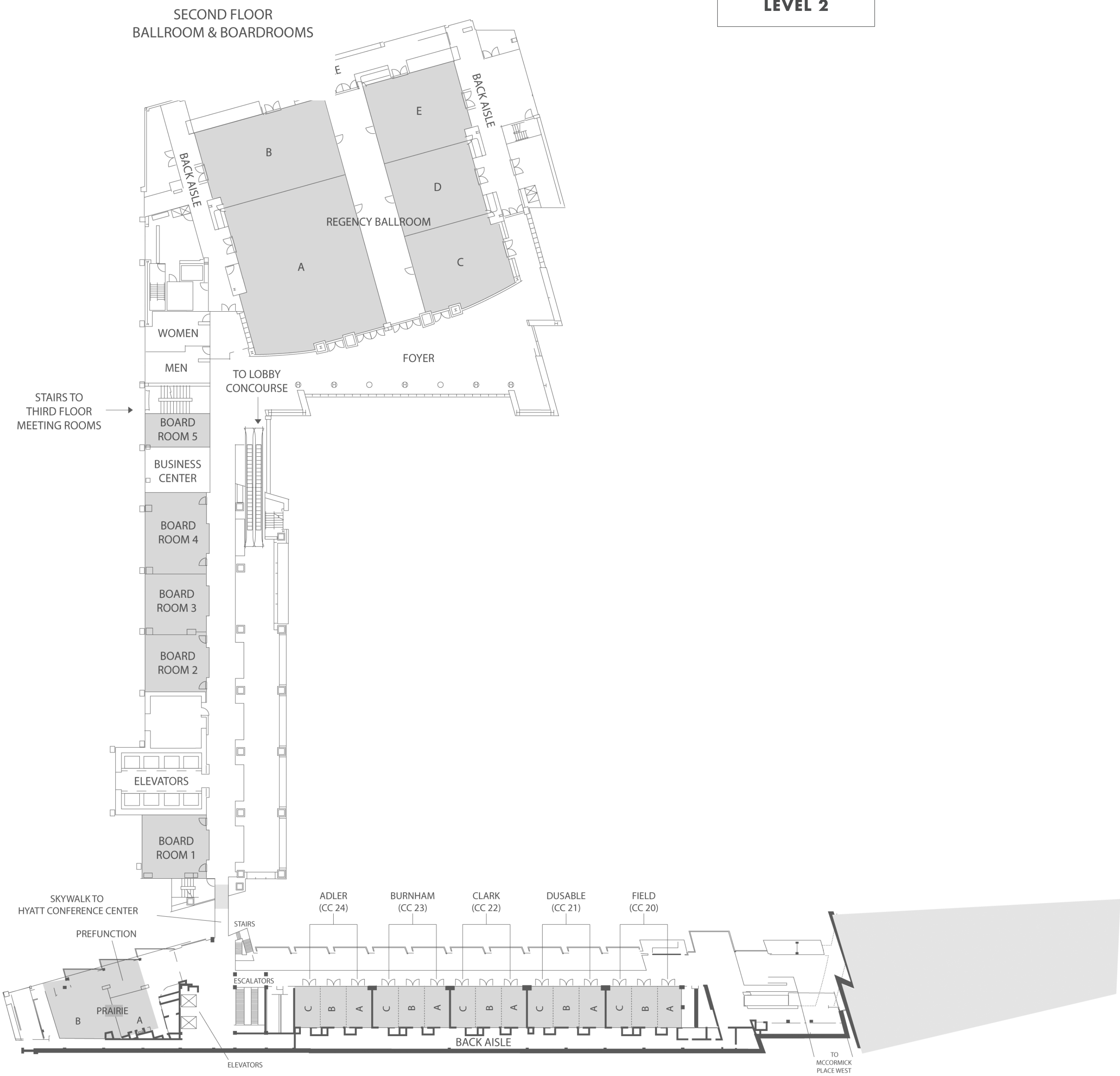
Hotel Floor Plans

HYATT REGENCY McCORMICK PLACE

2233 SOUTH DR. MARTIN LUTHER KING JR. DRIVE

CHICAGO, ILLINOIS 60616

LEVEL 2



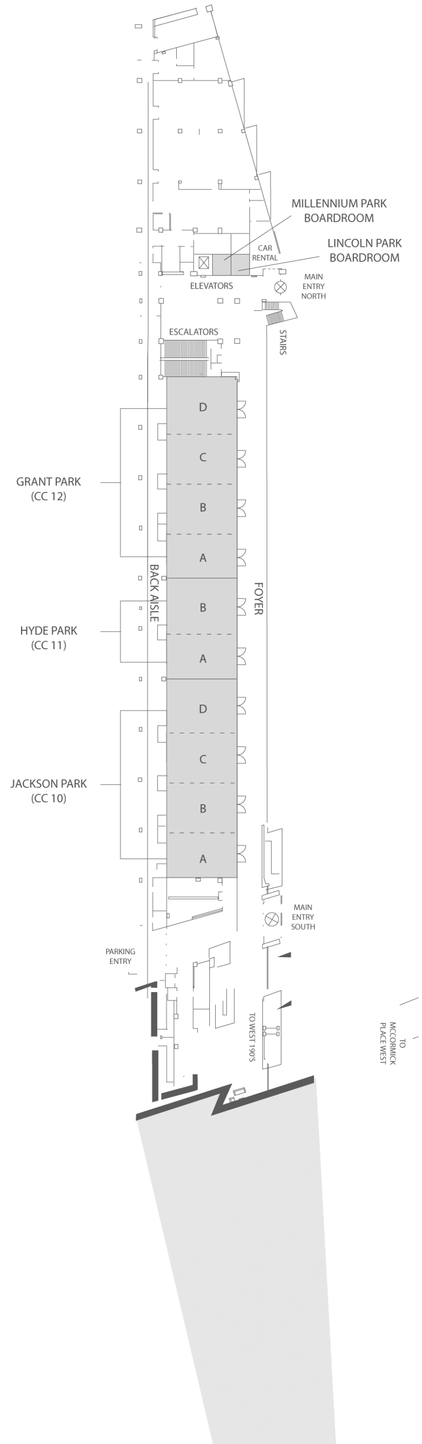
Hotel Floor Plans

HYATT REGENCY McCORMICK PLACE

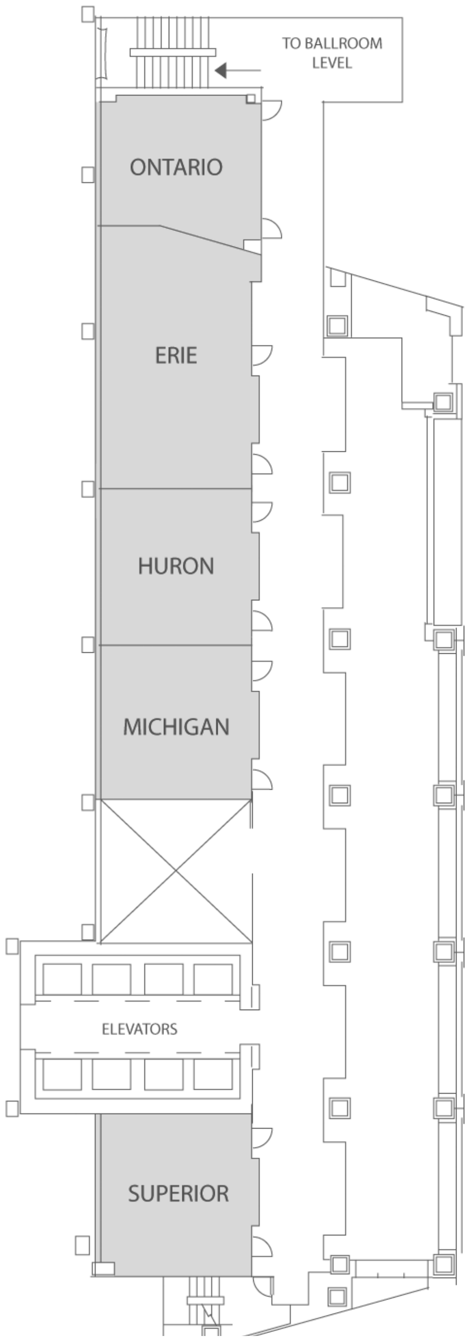
2233 SOUTH DR. MARTIN LUTHER KING JR. DRIVE

CHICAGO, ILLINOIS 60616

LEVEL 1



LEVEL 3



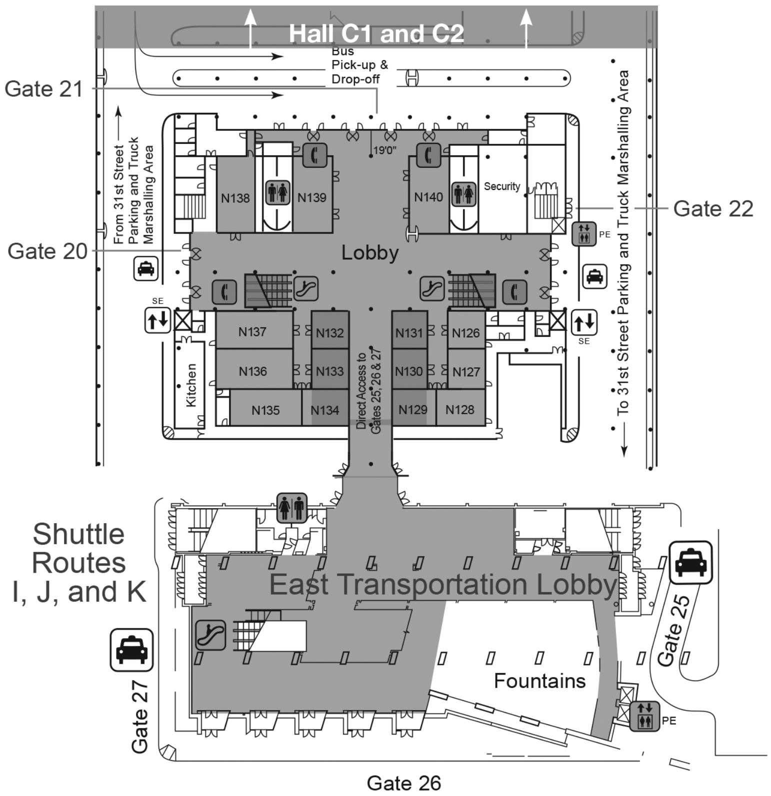
Convention Center Floor Plans

McCORMICK PLACE

2301 S. MARTIN LUTHER KING DRIVE

CHICAGO, ILLINOIS 60616

LEVEL 1 NORTH



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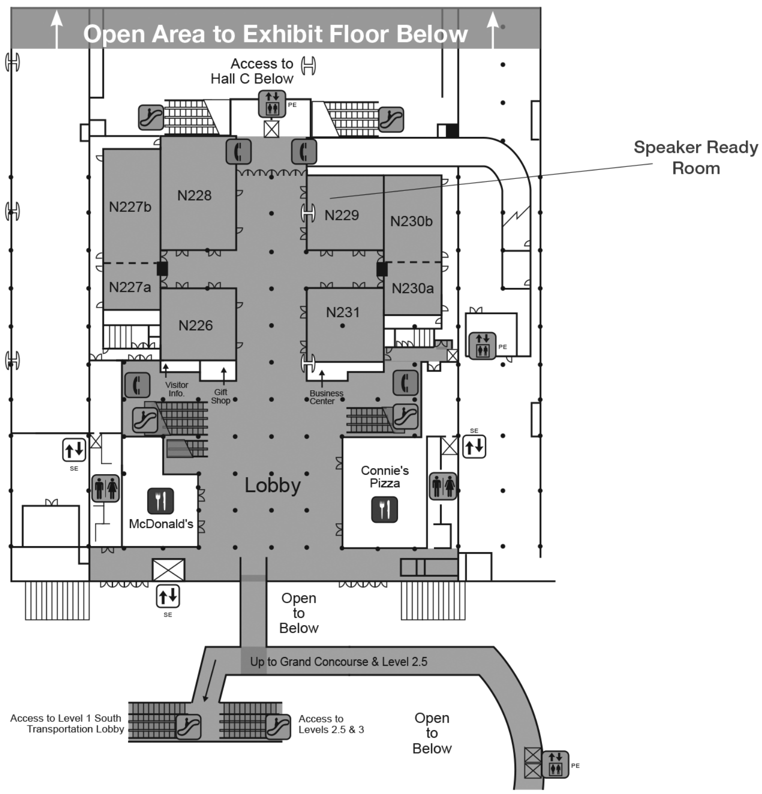


Convention Center Floor Plans

McCORMICK PLACE

2301 S. MARTIN LUTHER KING DRIVE

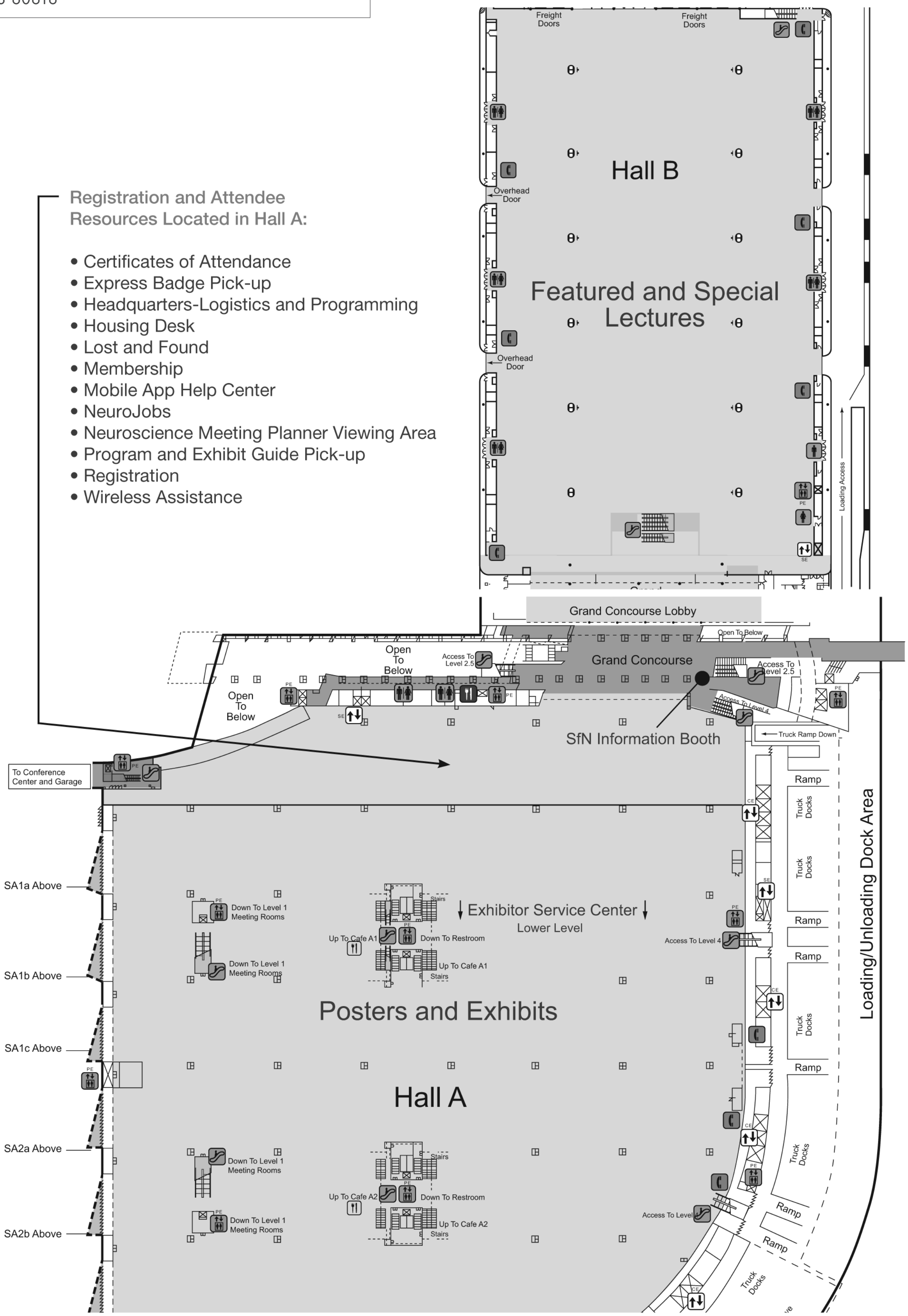
CHICAGO, ILLINOIS 60616

LEVEL 3 NORTH

Registration and Attendee Resources Located in Hall A:

- Certificates of Attendance
- Express Badge Pick-up
- Headquarters-Logistics and Programming
- Housing Desk
- Lost and Found
- Membership
- Mobile App Help Center
- NeuroJobs
- Neuroscience Meeting Planner Viewing Area
- Program and Exhibit Guide Pick-up
- Registration
- Wireless Assistance

LEVEL 3 SOUTH



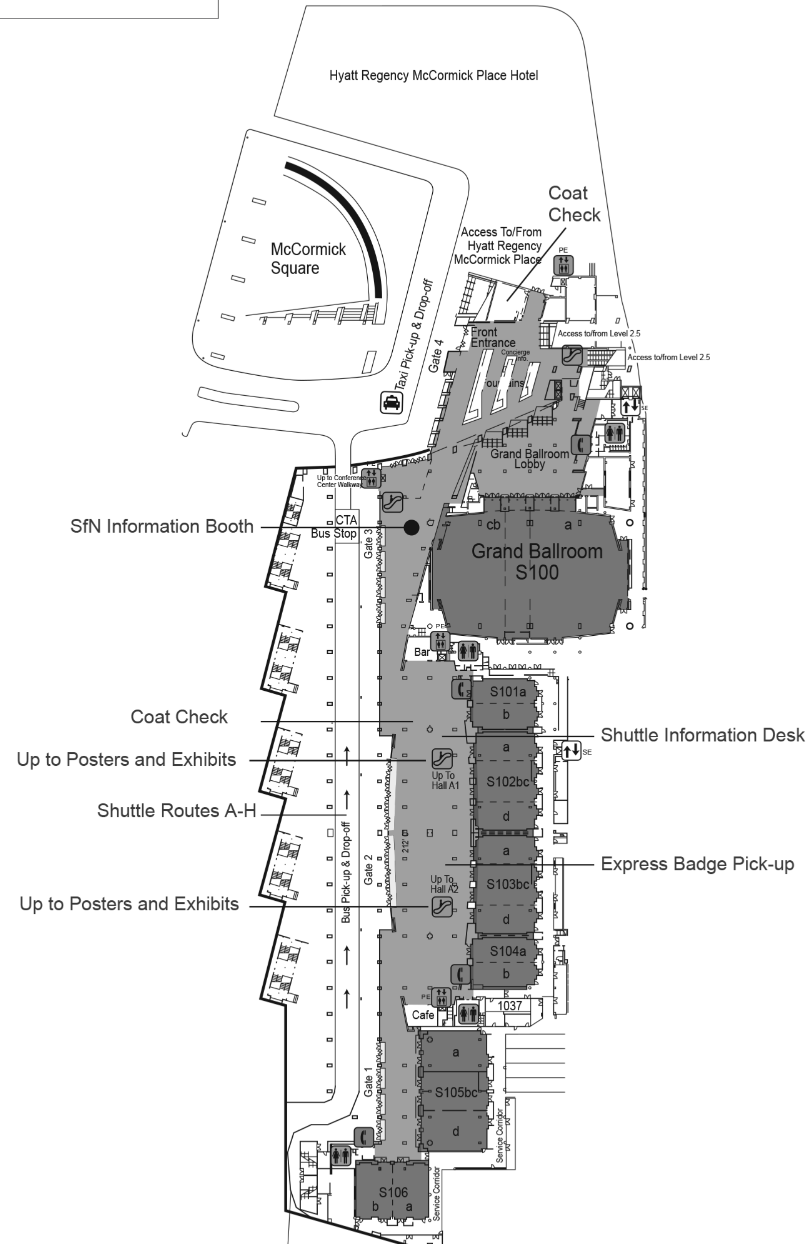
Convention Center Floor Plans

McCORMICK PLACE

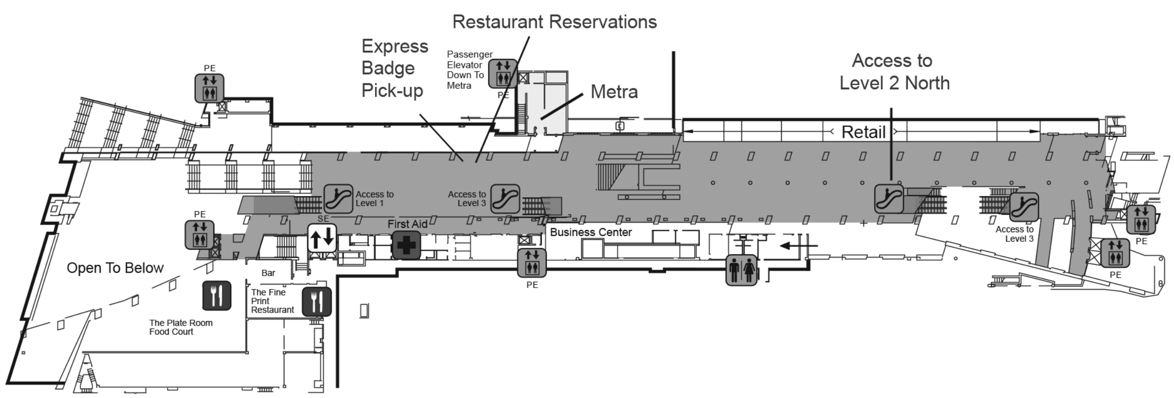
2301 S. MARTIN LUTHER KING DRIVE

CHICAGO, ILLINOIS 60616

LEVEL 1 SOUTH



LEVEL 2.5 SOUTH



Convention Center Floor Plans

McCORMICK PLACE

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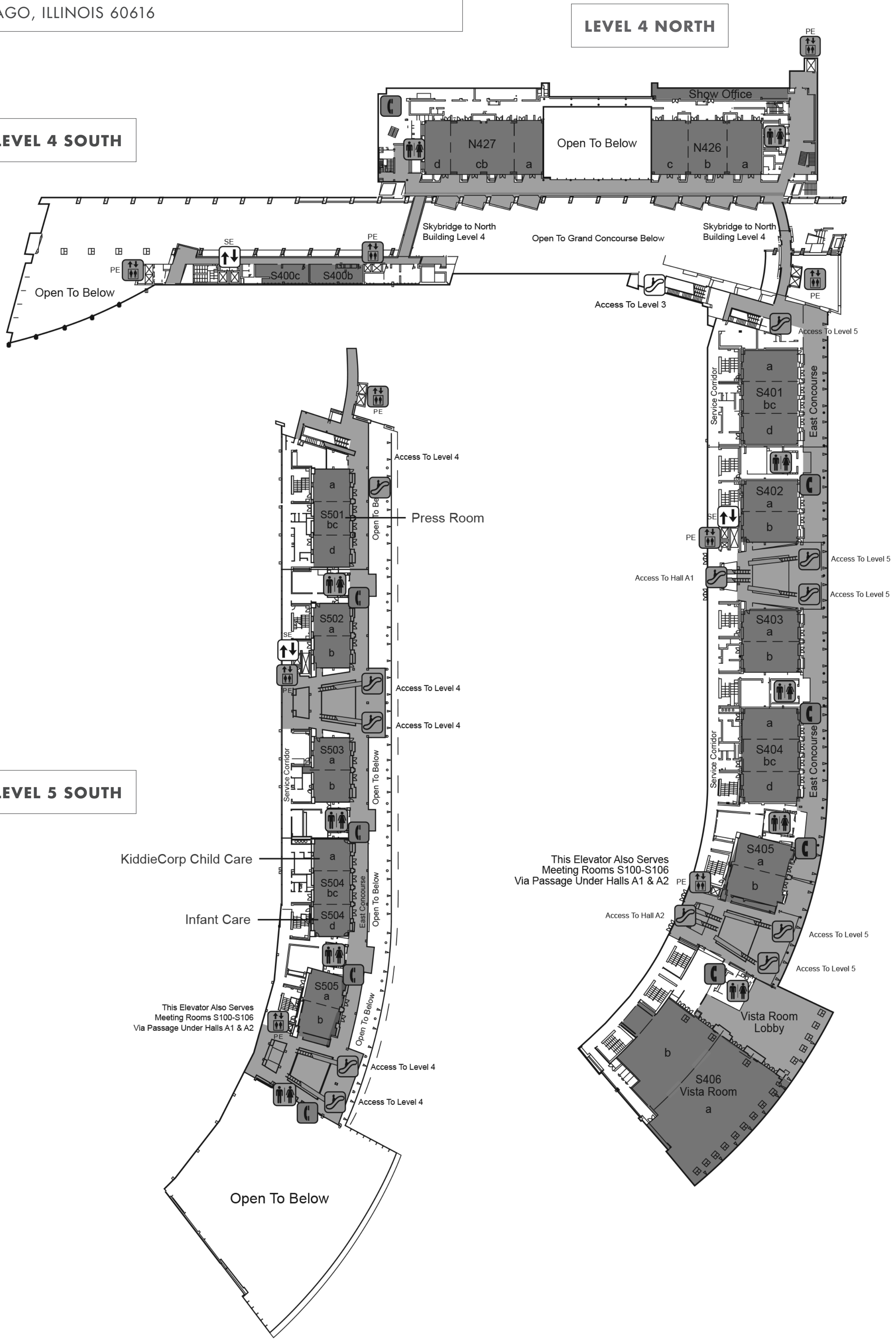
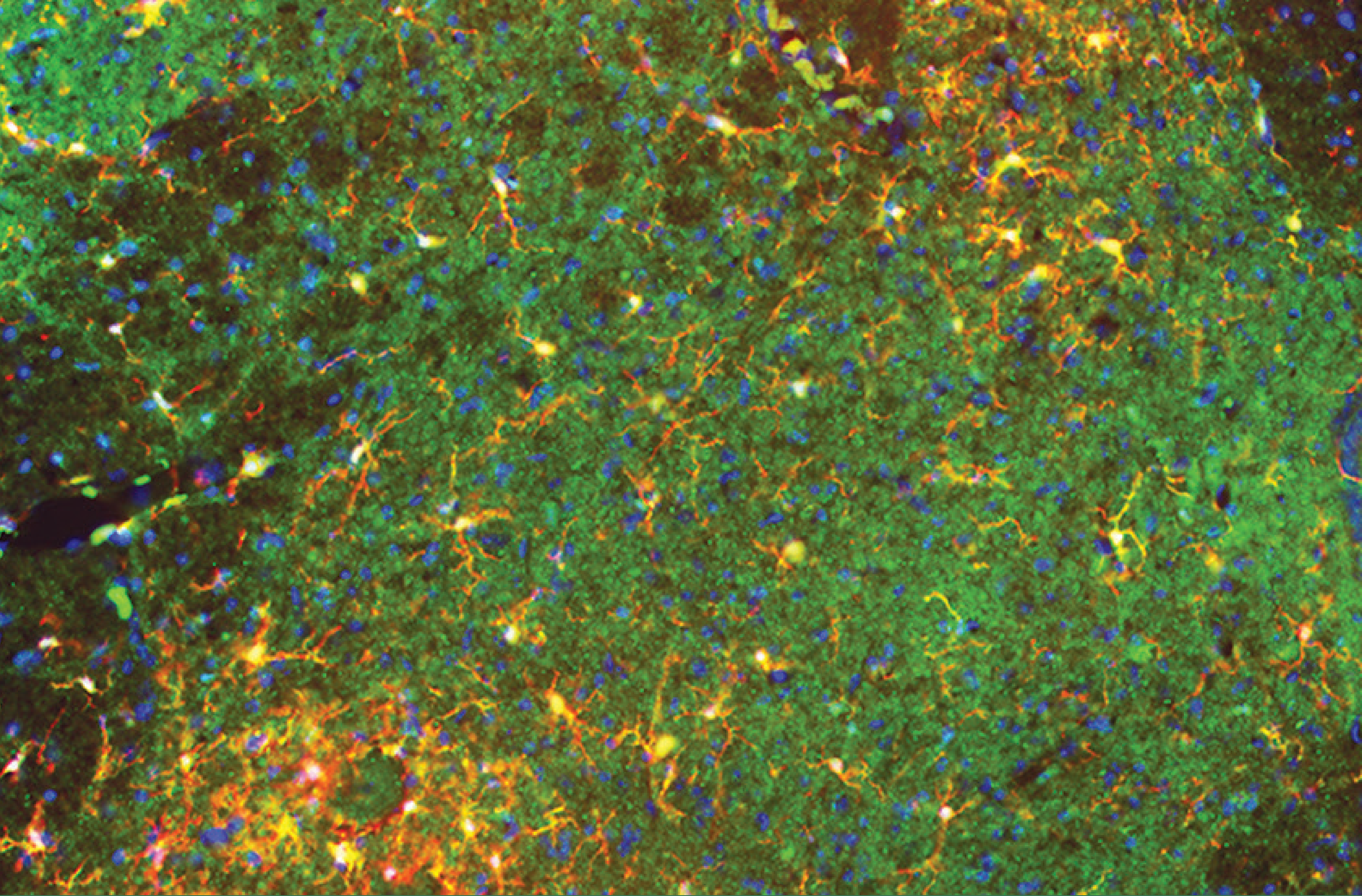
CHICAGO, ILLINOIS 60616





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